



The BLM Hassayamapa Field Office, Agua Fria National Monument, is releasing an Environmental Assessment (EA) and preliminary Finding of No Significant Impact (FONSI) for the **Arizona Public Service Dugas to Morgan Fiber-Optic Installation Project**. The EA and FONSI are available for public review and comment through **July 30, 2012**. Written comments will be accepted at either of the following addresses:

**BLM\_AZ\_AFNM\_Bradshaw@blm.gov**

*Please include "Dugas Morgan Project" in the subject of your email*

**BLM—Dugas Morgan Project**

**Attention Michael Rice, Project Manager  
21605 North 7<sup>th</sup> Avenue  
Phoenix, AZ 85027**

When creating your comments, please consider the following information.

This is an opportunity for you to be involved in the decision-making process of the Bureau of Land Management by offering your concerns and thoughts on alternative ways for the agency to accomplish what it is proposing.

#### **Tips for Providing Helpful Comments**

- Clearly identify where the issue is located; why you believe there is an issue; and alternative ideas to address the issue.
- Include any knowledge, experience or evidence as it relates to your observations and comments.
- Provide constructive solutions with documentation or resources to support your recommendations.
- Provide GPS readings if possible when referring to specific locations.
- Avoid vague statements or concerns—they don't give the BLM something on which to act.

*Comments are not votes for or against a decision. BLM must rely on supporting information, not the number of comments received. Multiple comments / topics with the same concern are considered one comment.*

#### **Confidentiality**

Individuals may request confidentiality. If you wish to withhold your name or address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your comments. Such requests will be honored to the extent allowed by law.

All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

**FINDING OF NO SIGNIFICANT IMPACT**  
**FOR THE**  
**APS DUGAS TO MORGAN FIBER-OPTIC INSTALLATION**

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DOI-BLM-AZ-P000-2011-003-EA

Based on the analysis of potential environmental impacts discussed in the attached environmental assessment (EA), and considering the significance criteria in 40 Code of Federal Regulations (CFR) 1508.27, described below, I have determined that the Proposed Action will not have a significant effect on the human environment. An environmental impact statement is therefore not required.

**Context**

The project is a proposed 51.5-mile overhead fiber-optic installation on the existing Arizona Public Service (APS) Navajo-Westwing 530-kilovolt (kV) transmission line between the existing Dugas Substation in Yavapai County, Arizona, and the existing Morgan Substation in Maricopa County, Arizona. The 256.9-mile Navajo-Westwing transmission line consists of two parallel high-voltage transmission lines placed into service in 1972. The line on the east side of the right-of-way (ROW) is called the Westwing Line and the line on the west side is called the Moenkopi Line. The fiber-optic installation is proposed to meet critical system communication needs for the power utility and involves replacing one of two existing static cables (used for lightening protection) on the Westwing Line with a new static fiber-optic cable, in the same position on existing transmission line towers. The proposed fiber-optic line would be the only fiber communications link from the Phoenix metropolitan area to the Verde Valley in central Arizona and is intended for APS's sole use. Arizona Public Service has submitted an application to amend its two existing Bureau of Land Management (BLM) ROW grants to accommodate this Proposed Action.

Of the approximate 51.5 miles of transmission line, 14.9 miles are within the Agua Fria National Monument (AFNM) located east of Interstate 17 (I-17) between Black Canyon City and Cordes Lakes, Arizona. The non-AFNM portion of the transmission line traverses over 8.4 miles of BLM-administered federal land, 23.3 miles of State Trust land managed by Arizona State Land Department (ASLD), and 5.0 miles of private land under the jurisdiction of Yavapai or Maricopa Counties. Overland access to the Navajo-Westwing transmission line would be provided through the use of existing BLM-designated routes by reopening routes originally established to construct the powerline, and by a new 0.1-acre road on BLM land (outside of the AFNM) and a new 0.1 acre road on State Trust land. BLM would designate the reopened routes for administrative use only.

The APS proposal is considered a connected action under the National Environmental Policy Act (NEPA). Portions of the Proposed Action occur on federal land and portions occur on Arizona State Trust land and private land. It is a connected action because it is reasonable to assume that if the

action were not to occur on BLM land, then the Proposed Action would not occur on Arizona State Trust land and private land. NEPA regulations require that the BLM, at a minimum, consider the nonfederal connected action (40 CFR 1508.25). In this document, the impacts of the nonfederal action are analyzed as indirect impacts.

The disclosure of effects in the EA found the actions limited in context. The project area is limited in size and the activities limited in potential. Effects are largely short-term and localized, and would not significantly affect national, regional, or AFNM resources.

## **Intensity**

The evaluation of the intensity of the Proposed Action is organized around the 10 Significance Criteria described at 40 CFR 1508.27. The following have been considered in evaluating intensity for this proposal.

### **1. Impacts that may be both beneficial and adverse**

The environmental analysis documented in DOI-BLM-AZ-P000-2011-003-EA did not identify any individually significant short- or long-term impacts. The beneficial effects of the project include improvements in the APS transmission line system communication network, and improved administrative access to the Navajo-Westwing transmission line for periodic inspection, maintenance, and emergency repairs.

### **2. Degree of effect on public health and safety**

The analysis showed that there would be no significant adverse effect on public health and safety. Project design features have been incorporated into the Proposed Action to address potential adverse impacts on air quality. Specifically, APS would follow best management practices and regulatory requirements for dust control to reduce or avoid fugitive dust from project-related activities. Design features also include preparation of a stormwater pollution prevention plan to protect water quality. Notification would be provided in advance of project activities to alert the public of potential short-term closures in work areas to ensure public safety and short-term increases in noise levels from helicopters and work equipment.

### **3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas**

The Proposed Action incorporates design features to avoid all impacts to cultural resources. Cultural resource surveys were completed in areas not previously surveyed where project activities and potential land disturbance could occur. The analysis showed that cultural resources would not be

adversely impacted. The project area includes portions of the AFNM, but potential adverse impacts to resources within the AFNM are avoided or, if adverse, are generally negligible through the use of multiple design features. Within the AFNM, three segments of the Agua Fria River have been determined by BLM to be suitable for designation to the National Wild and Scenic Rivers System, and there are eight tributary streams which have been determined by BLM as eligible for study as potential additions to the National Wild and Scenic Rivers System. These resources would not be adversely impacted by the Proposed Action. A segment of the Black Canyon National Recreation Trail is located in the Table Mesa portion of the project area. Notification would be provided to Trail users prior to commencement of project activities related to the potential for short-term Trail and BLM route closures and alternative options for Trail use. No long-term adverse impacts on the Trail would occur. There are no prime farmlands or parklands in the project area.

**4. Degree to which the possible effects on the quality of the human environment are likely to be highly controversial**

The analysis did not identify any controversy or disagreement concerning effects on the quality of the human environment. Public comments did not express concerns about adverse effects of the Proposed Action. No significant individual or cumulative impacts are anticipated as a result of this action.

**5. Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risk**

The analysis did not identify possible effects on the quality of the human environment that are uncertain or involve unique or unknown risk.

**6. Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration**

The analysis did not reveal that that Proposed Action would establish a precedent for any future actions with significant effects, and the activities are not connected to any other future actions. Implementation of this decision would not trigger other actions, nor is it a part of a larger action in the project area encompassed by this decision. The action is in conformance with the *Agua Fria National Monument Record of Decision and Approved Resource Management Plan* (BLM 2010a) and the *Bradshaw-Harquahala Record of Decision and Approved Resource Management Plan* (BLM 2010b). The Travel Management Plan for the AFNM (BLM 2010a:Appendix C) and the Travel Management Plan for the Table Mesa Recreation Management Zone (BLM 2010c) would be amended to accommodate the reopened routes designated for future administrative access to the Navajo-Westwing transmission line ROW.

**7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts**

The analysis did not identify any known significant cumulative or secondary effects.

**8. Degree to which the action may adversely affect district, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources**

The analysis showed that cultural resources would not be adversely impacted. The project area includes portions of the AFNM (which was afforded a national-monument designation to protect important cultural resources). The AFNM includes a portion of the Perry Mesa National Register District. Cultural resource surveys were completed in areas not previously surveyed where project activities and potential land disturbance could occur. The Proposed Action incorporates design features to avoid impacts to cultural resources.

**9. Degree to which the action may adversely affect an endangered or threatened species or its critical habitat**

The analysis showed that a portion of the project area is within BLM Category II Sonoran desert tortoise habitat. The Sonoran desert tortoise is a candidate species under the Endangered Species Act. The areas proposed for project activities in Category II tortoise habitat were surveyed, and through the implementation of project design features, no potential adverse impacts were identified. No additional potential impacts to federal endangered or threatened species were identified.

**10. Whether the action threatens a violation of federal, state, or local environmental protection law**

The analysis showed that the Proposed Action is consistent with federal, state, and local laws or requirements imposed for protection of the environment.

I have reviewed the Council on Environmental Quality (CEQ) (40 CFR 1508.27) regulations for significance and have determined the actions analyzed in the EA would not constitute a major federal action that would significantly affect the quality of the human environment. Therefore, an Environmental Impact Statement is not required.

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Field Manager

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Date

**ENVIRONMENTAL ASSESSMENT**

**FOR THE**

**ARIZONA PUBLIC SERVICE**

**DUGAS TO MORGAN FIBER-OPTIC INSTALLATION**

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**DOI-BLM-AZ-P000-2011-003-EA**

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June 22, 2012

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## ABBREVIATIONS

ADEQ	Arizona Department of Environmental Quality
AFNM	Agua Fria National Monument
AGFD	Arizona Game and Fish Department
AIDTT	Arizona Interagency Desert Tortoise Team
APS	Arizona Public Service
ASLD	Arizona State Land Department
BCMU	Black Canyon Management Unit
BH	Bradshaw-Harquahala
BLM	Bureau of Land Management
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
dBA	A-weighted decibel
EA	environmental assessment
FLPMA	Federal Land Policy and Management Act
FR	Federal Register
GPS	Global Positioning System
HDMS	Heritage Data Management System
I-17	Interstate 17
kV	kilovolt
LR	lands and realty management
LWC	land with wilderness characteristics
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NWSR	national wild and scenic river
O <sub>3</sub>	ozone
OHV	off-highway vehicle
OSHA	Occupational Safety and Health Administration
PM <sub>10</sub>	particulate matter
RMP	resource management plan
RMZ	recreation management zone
ROW	right-of-way
SCRMA	special cultural resource management area

SWPPP	stormwater pollution prevention plan
TGA	Taylor Grazing Act
TM	travel management
TMP	travel management plan
USC	United States Code
USFWS	U.S. Fish and Wildlife Service

## **1.0 INTRODUCTION AND PURPOSE AND NEED**

### **1.1 Introduction**

Arizona Public Service (APS), a private energy utility, is proposing to replace an existing static cable with a new static fiber-optic cable on an approximate 51.5-mile segment of the existing Navajo-Westwing 500-kilovolt (kV) overhead transmission line between the existing APS Dugas Substation in Yavapai County and the existing Morgan Substation in Maricopa County (Figure 1). The 256.9-mile Navajo-Westwing transmission line consists of two parallel high-voltage transmission lines placed into service in 1972. The line on the east side of the right-of-way (ROW) is called the Westwing Line, and the line on the west side is called the Moenkopi Line (Figure 2). The fiber-optic installation is being proposed to meet critical system communication needs for the power utility. APS has submitted an application to amend its two existing Bureau of Land Management (BLM) ROW grants to accommodate this Proposed Action.

Of the approximate 51.5 miles of transmission line, 14.9 miles are within the Agua Fria National Monument (AFNM) located east of Interstate 17 (I-17) between Black Canyon City and Cordes Lakes, Arizona (Figure 3). The 70,900-acre AFNM, managed by BLM, was established by Presidential Proclamation 7263 in January 2000 to preserve and protect its significant archaeological and biological resources (65 Federal Register [FR] 2817). The non-AFNM portion of the transmission line traverses 8.4 miles of BLM-managed federal land, 23.3 miles of Arizona State Trust land managed by the Arizona State Land Department (ASLD), and 5.0 miles of private land under the jurisdiction of Yavapai County or Maricopa County. The Arizona Game and Fish Department (AGFD) also owns and operates Horseshoe Ranch within the boundaries of the AFNM.

The APS proposal is considered a connected action under the National Environmental Policy Act (NEPA). Portions of the Proposed Action occur on federal land and portions occur on Arizona State Trust land and private land. It is a connected action because it is reasonable to assume that if the action were not to occur on BLM land, then the Proposed Action would not occur on Arizona State Trust land and private land. NEPA regulations require that the BLM, at a minimum, consider the nonfederal connected action (40 Code of Federal Regulations [CFR] 1508.25). In this environmental assessment (EA), the impacts of the nonfederal action are analyzed as indirect impacts.

APS has installed a new fiber-optic cable on the Navajo-Westwing transmission line segment from the Yavapai Substation to the Dugas Substation that also crossed BLM-managed land. That fiber-optic installation was evaluated by the BLM in 2008 and determined to be categorically excluded under NEPA, in accordance with the BLM's Department Manual 516 (cited in BLM 2008a). The categorical exclusion that was applicable to the Yavapai to Dugas fiber-optic project is not applicable to the current proposal because the categorically excluded use is restricted to approving ROW inside previously approved, similarly used ROW. The current proposal includes project-related ground-disturbing activities outside the existing APS ROW. The BLM is therefore using an EA to analyze the entire Dugas to Morgan fiber-optic installation.

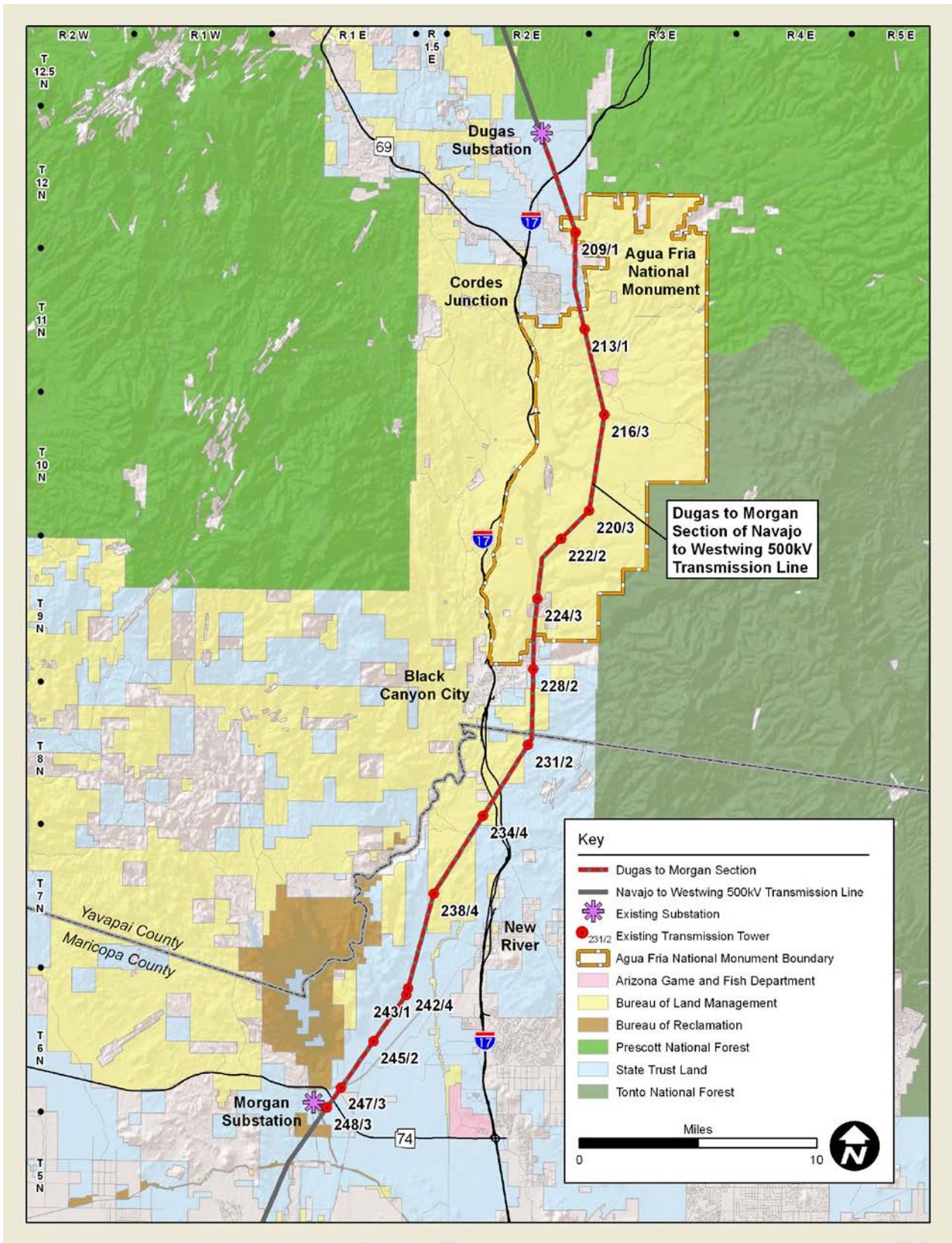
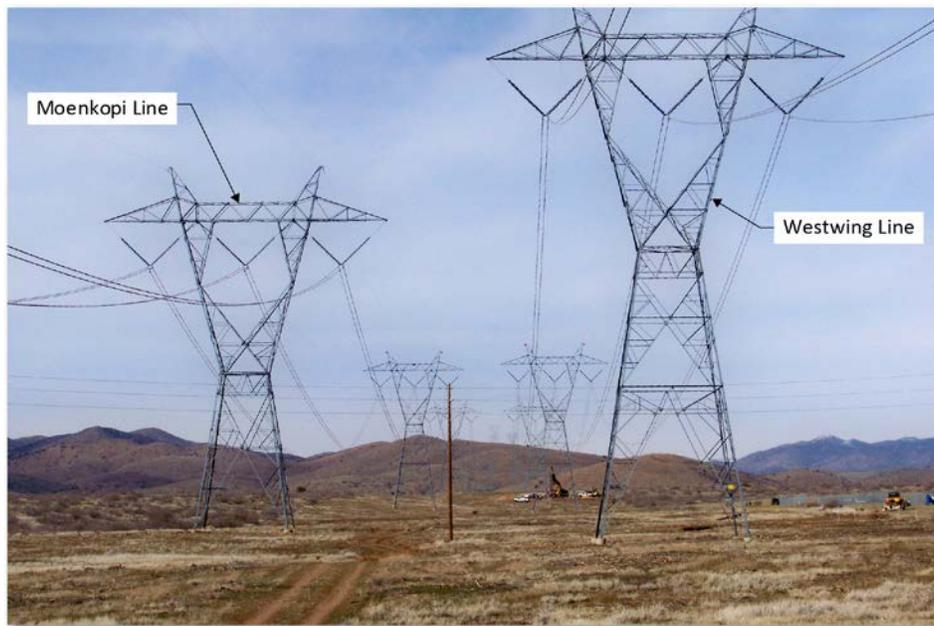


Figure 1. Project Vicinity



**Figure 2. Navajo-Westwing Transmission Line near Dugas Substation, Looking North**

## **1.2 Purpose and Need for Action and Decision to be Made**

The BLM's purpose is to respond to the APS application to amend the existing BLM ROW grants for two parallel electrical power transmission lines. The need for action stems from Title V of the Federal Land Policy and Management Act (FLPMA) (43 United States Code [USC] 1701), which requires BLM to respond to ROW applications.

The BLM will decide whether to approve, to approve with modification, or to deny the ROW grant amendments. Approval of the ROW grant amendments may require amending the travel management plans (TMPs) for the AFNM (BLM 2010a:Appendix C) and the Table Mesa recreation area (BLM 2010c).

## **1.3 Scoping and Issues**

Scoping is the process for gathering internal (BLM) and external (interested agencies and general public) comments on the Proposed Action, to identify alternatives to the Proposed Action, and to determine which resource issues should be analyzed in the NEPA document. Internal and external scoping was used to prepare this EA.

### **1.3.1 Internal Scoping**

Internal scoping meetings were held on June 7, June 15, and July 7, 2011, with BLM staff from multiple resource disciplines representing the Arizona State Office, the Phoenix District Office, and the Hassayampa Field Office. Internal scoping comments and issues are summarized in Table 1.

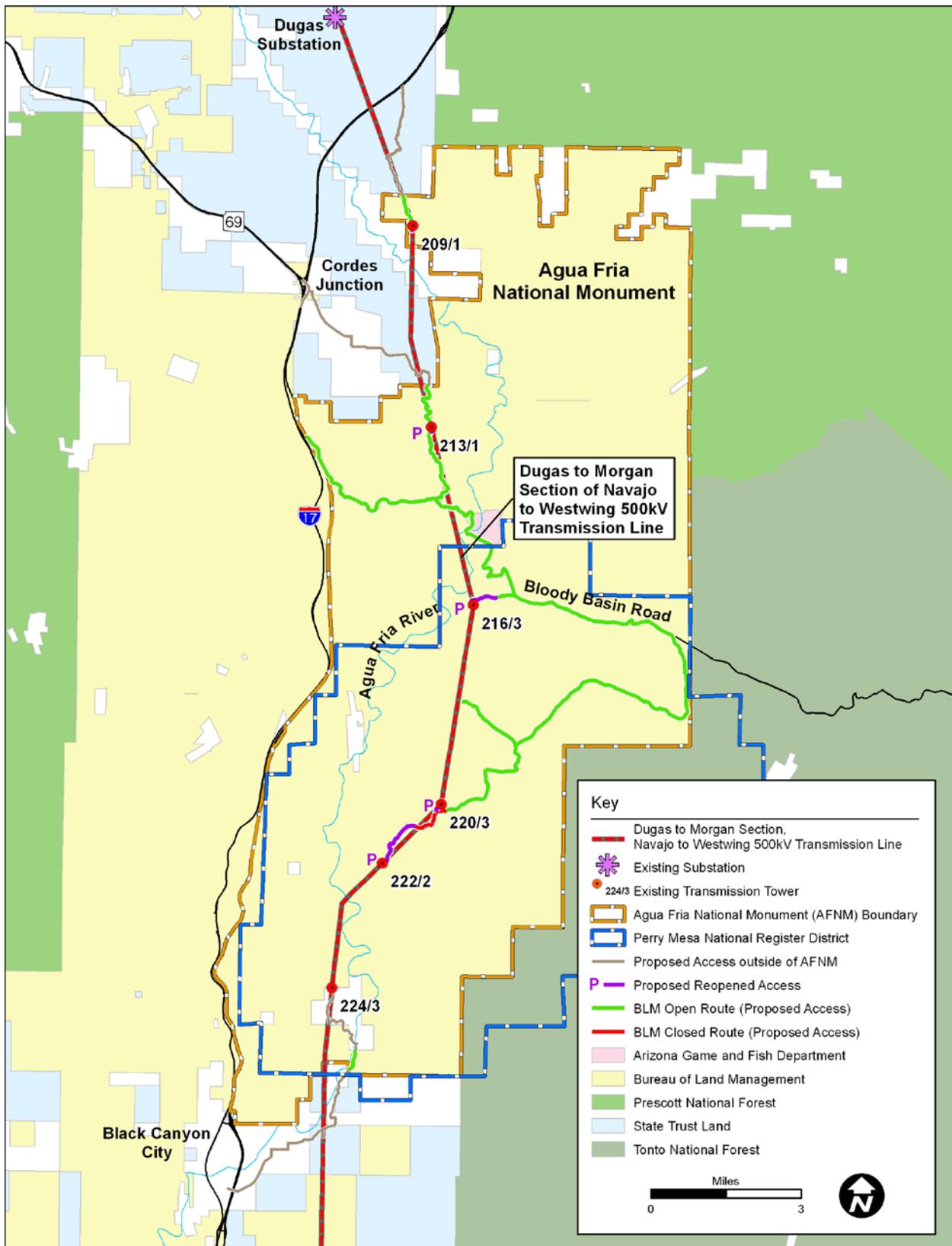


Figure 3. Agua Fria National Monument

### 1.3.2 External Scoping

The external scoping process included public notification about the proposed project and invited comments on the proposal from other agencies, organizations, Native American tribes, and the public. The 30-day scoping period for this EA extended from August 5, 2011, through September 6, 2011. Scoping letters were mailed to all (383) individuals, agencies, and organizations that were listed on the BLM's mailing list for external communications pertaining to the AFNM and Black Canyon Corridor area of public land. A total of four comment letters were received by BLM during the scoping period. The scoping comments are summarized in Table 1.

The BLM also provides information about proposed activities within the AFNM—including the Proposed Action—to stakeholders, partners, and other agencies and to the Friends of the Agua Fria National Monument at regularly scheduled meetings with this group.

### 1.3.3 Issues

As described in Section 6.4 of the BLM *NEPA Handbook*, H-1790-1 (BLM 2008b), an issue is a point of disagreement, debate, or dispute with a proposed action based on some anticipated environmental effect. An issue is more than just a position statement; rather, an issue:

- Has a cause and effect relationship with the proposed action or alternatives.
- Is within the scope of analysis.
- Has not been decided by law, regulation, and previous decision.
- Is amenable to scientific analysis, rather than conjecture.

The issues and comments identified during the scoping period are summarized in Table 1. An issue was found to be significant/relevant if it met the criteria presented above. If an issue was determined to not be significant/relevant, then it was not carried forward for analysis.

## 1.4 Land Use Plan Conformance

The Proposed Action is subject to two BLM land use plans that govern the project area. The *Agua Fria National Monument Record of Decision and Approved Resource Management Plan* (AFNM-RMP) (BLM 2010a) pertains to the project area within the AFNM. Federal land outside the AFNM is governed by the *Bradshaw-Harquahala Record of Decision and Approved Resource Management Plan* (BH-RMP) (BLM 2010b).

**Table 1. Summary of Scoping Comments and Issues**

<b>Commenter (Date of Comment)</b>	<b>Summary of Comments by Environmental Parameter or Topic</b>	<b>Disposition [1]</b>	<b>Relevant EA Section</b>
<b>Internal Scoping Issues</b>			
Bureau of Land Management	How would the proposed project impact air resources, particularly PM <sub>10</sub> emissions?	Significant/Relevant	Chapter 2; Design Features, Air Resources Chapter 3; Air Resources
Bureau of Land Management	Would the proposed project have detrimental impacts on desert tortoise, pronghorn, and sensitive plants? Further, could the ground disturbance associated with the proposed project propagate invasive plants?	Significant/Relevant	Chapter 2; Design Features, Biological Resources Chapter 3; Biological Resources
Bureau of Land Management	How would the proposed project impact cultural resources?	Significant/Relevant	Chapter 2; Design Features, Cultural Resources Chapter 3; Cultural Resources
Bureau of Land Management and Arizona Department of Game and Fish	Would the proposed project have negative impacts on existing land uses such as utility and communications corridors, livestock grazing operations? Further, could the Proposed Action have detrimental effects on nearby private land such as the Horseshoe Ranch and Cross Y Ranch?	Significant/Relevant	Chapter 2; Design Features, Lands and Realty Chapter 3; Lands and Realty
Bureau of Land Management	How would project activities affect the natural ambient noise?	Significant/Relevant	Chapter 2; Design Features, Noise Chapter 3; Noise
Bureau of Land Management	How would the proposed project affect both casual recreation use within the project area, along with established special recreation permits, especially within the Agua Fria National Monument (AFNM), Table Mesa Recreation Management Zone, and Black Canyon Trail?	Significant/Relevant	Chapter 2; Design Features, Recreation Chapter 3; Recreation
Bureau of Land Management	Could the project have a negative impact on existing special designations, such as the Agua Fria River's eligibility for Wild and Scenic River designation or the Black Canyon National Recreation Trail?	Significant/Relevant	Chapter 2; Design Features, Special Area Designation Chapter 3; Special Area Designation
Bureau of Land Management	How would the route designation associated with the proposed project impact the overall travel management system?	Significant/Relevant	Chapter 2; Design Features, Transportation and Travel Management Chapter 3; Transportation and Travel Management

<b>Commenter (Date of Comment)</b>	<b>Summary of Comments by Environmental Parameter or Topic</b>	<b>Disposition [1]</b>	<b>Relevant EA Section</b>
Bureau of Land Management	How could route alteration associated with the proposed project impact both visual resources and the current visual resource management allocations?	Significant/Relevant	Chapter 2; Design Features, Visual Resources Chapter 3, Visual Resources
Bureau of Land Management	Could the project impact jurisdictional waters of the United States?	Significant/Relevant	Chapter 2; Water Resources Chapter 3, Water Resources
Bureau of Land Management	How would proposed project activities affect lands with wilderness characteristics?	Significant/Relevant	Chapter 2; Design Features, Wilderness Characteristics Chapter 3, Wilderness Characteristics
<b>Comment Letters from Public Agencies</b>			
Arizona State Historic Preservation Office (letter dated 8/26/11)	The agency looks forward to Section 106 consultation on this undertaking.	Significant/relevant	Chapter 3, Cultural Resources
<b>Comment Letters from Tribes</b>			
Hopi Cultural Preservation Office (letter dated 8/8/11)	The Hopi Tribe claims cultural affiliation with prehistoric cultural groups in the AFNM. The Hopi Cultural Preservation Office supports identification and avoidance of prehistoric archaeological sites and considers the prehistoric archaeological sites of Hopi ancestors to be "footprints" and traditional cultural properties.	Significant/relevant	Chapter 3, Cultural Resources
	The Hopi Cultural Preservation Office is interested in consulting on any proposal that has the potential to adversely affect prehistoric sites on the AFNM.	Significant/relevant	Chapter 3, Cultural Resources
	If prehistoric sites are identified by the cultural resources survey of the area of potential affect that will be adversely affected by project activities, a copy of the survey report and any proposed draft treatment plans for review and comment is requested.	Significant/relevant	Chapter 3, Cultural Resources
<b>Comment Letters from Members of the General Public</b>			
	General support for the project assuming that there is agreement between BLM, Arizona Game and Fish Department, and Arizona Public Service (APS).	Significant/relevant	See Table Note 2
	General recognition of the need to satisfy transmission system communications.	Significant/relevant	See Table Note 2
	Concern that the Transwestern gasline project impacted undisturbed BLM land and resources instead of using existing gas-line right-of-way.	Out of scope	See Table Note 2

<b>Commenter (Date of Comment)</b>	<b>Summary of Comments by Environmental Parameter or Topic</b>	<b>Disposition [1]</b>	<b>Relevant EA Section</b>
	General perception of the project as a maintenance issue for APS.	Comment noted	See Table Note 2
	General belief that APS is usually respectful of property and that the APS field equipment would likely not require land disturbance, only moving rocks and bushes out of the way.	Comment noted	Section 2.1, Proposed Action Chapter 3, multiple resources
	Suggestion that BLM identify ruins in the area of proposed APS access so that the cultural resources can be avoided.	Significant/relevant	Chapter 3, Cultural Resources
	Suggestion that any markings and trails be removed or blocked when the project is complete to prevent other vehicles from entering the area.	Significant/relevant	Chapter 3, multiple resources
	Suggestion that the project construction schedule be postponed till fall (October thru December) when cooler temperatures are present in Phoenix and there is reduced energy demand.	Significant/relevant	Section 2.1, Proposed Action

*Table Notes:* [1] Only substantive comments are addressed in the EA. [2] This comment does not raise an issue under NEPA. All comments describing support for or opposition to the proposed project or asking for analyses not required under NEPA will be considered by the BLM decision maker.

### **1.4.1 Agua Fria National Monument Resource Management Plan**

The AFNM was established January 11, 2000, by Presidential Proclamation 7263 under the Antiquities Act of 1906 (34 Statutes 225, 16 USC 431–433) to protect an array of scientific, archaeological, historical, and biological objects that are described in the proclamation. The proclamation provides the principal direction for management of the AFNM, including direction for how the provisions of FLPMA are to be applied. The AFNM-RMP (BLM 2010a) fulfills the proclamation directives by guiding management activities and providing protection for AFNM resources. For the Proposed Action, the AFNM-RMP applies to the 14.9-mile transmission line segment and related project activities within the AFNM.

The AFNM portion of the Proposed Action (Figure 3) has been reviewed and found to be in conformance with the AFNM-RMP. Two AFNM-RMP management actions for Lands and Realty Management (LR-12 and LR-13) pertain directly to the Proposed Action (BLM 2010a):

**LR-12.** Land use authorizations, including existing rights-of-way for utility lines, will be limited to and managed in accordance with the valid existing rights granted before the monument was designated. Maintenance of these existing facilities will be permitted, subject to compliance with current BLM policies and practices, provided that monument resources are protected.

**LR-13.** Access to existing utilities on existing vehicle routes is considered an administrative use and is allowed. Continued maintenance of authorized facilities is also allowed with suitable mitigation to minimize affects to monument resources. Design maintenance of vehicle routes for access to correct hazardous or unsafe conditions, but keep them to the smallest size and condition necessary to provide access.

### **1.4.2 Agua Fria National Monument Travel Management Plan**

The AFNM-RMP includes an approved TMP (BLM 2010a:Appendix C) that provides route-specific designations (open, limited, and closed) intended to structure access and protect the resources and purposes of the AFNM. Project access within the AFNM would be largely accommodated on designated BLM routes. As described in Chapter 2, Proposed Action and Alternatives, some portions of designated routes would require minor cleanup (e.g., moving rocks and boulders rather than blading) to accommodate equipment access to the transmission line ROW. In a few areas, routes originally established to construct the powerline would be reopened to implement the Proposed Action; upon completion of the project, the routes would be maintained for APS and BLM administrative use with no public use allowed. The AFNM TMP would be amended to reflect the reopened BLM administrative routes.

### 1.4.3 Bradshaw-Harquahala Resource Management Plan

The portion of the Proposed Action on BLM-administered public land outside the AFNM is governed by the BH-RMP (BLM 2010b). The BH-RMP applies to BLM land in the north project area within the Upper Agua Fria River Management Unit; it also applies to the BLM-administered public land between the south boundary of the AFNM and the Morgan Substation within the BLM Black Canyon Management Unit (BCMU) (Figure 1).

The federal land portions of the Proposed Action outside the AFNM have been reviewed and found to be in conformance with the BH-RMP. One BH-RMP management action for travel management (TM-11) pertains directly to the Proposed Action (BLM 2010b):

**TM-11.** Administrative and other authorized uses will be approved on a case-by-case basis.

### 1.4.4 Table Mesa Recreation and Travel Management Plan

The BLM land and routes south of the AFNM and east of I-17 have been evaluated as part of the *Table Mesa Recreation Management Zone Recreation and Travel Management Plan and Environmental Assessment* (Table Mesa TMP) (BLM 2010c) that provides route-specific designations (open, limited, and closed) intended to structure access and protect the resources and purposes of the popular Table Mesa recreation area. Project access within the Table Mesa TMP area would be largely accommodated on designated BLM routes. As described in Chapter 2, Proposed Action and Alternatives, some portions of designated routes would require minor cleanup (e.g., moving rocks or boulders rather than blading) to accommodate equipment access to the transmission line ROW. In a few areas, routes originally established to construct the powerline would be reopened to implement the Proposed Action; upon completion of the project, the routes would be maintained for APS and BLM administrative use only. One new road would also be created southeast of Tower 234/3. The Table Mesa TMP would be amended to reflect the reopened BLM administrative routes and the new road.

## **2.0 PROPOSED ACTION AND ALTERNATIVES**

### **2.1 Proposed Action**

APS is proposing communication improvements along a segment (approximately 51.5 miles long) of the existing Navajo-Westwing 500-kV overhead transmission line ROW between the existing Dugas Substation in Yavapai County and the existing Morgan Substation in Maricopa County (Figure 1). The ROW is generally 330 feet wide.

The proposed improvements involve replacing one of the two existing static cables (used for lightning protection) on the Westwing transmission line with a new static fiber-optic cable on existing transmission towers (Figure 2). This work is needed to satisfy critical system communication needs for the power utilities. The proposed fiber-optic line would be the only fiber communications link from the Phoenix metropolitan area to the Verde Valley in central Arizona. The federal land portion (approximately 23.2 miles) of the proposed fiber-optic cable installation occurs on BLM land permitted under APS's existing ROW grants (A-6121 and AZA-27240) for the transmission line. Authorization A-6121 was granted on February 17, 1972, and will expire on April 17, 2022. Authorization AZA-27240 was originally an Arizona State Land Department (ASLD) permit; the ownership was subsequently transferred to BLM. This authorization was granted by BLM on October 20, 1976, and will expire on October 19, 2026. Both ROW grants have a ROW width of 330 feet. These existing ROW grants must be amended for the Proposed Action to take place.

Proposed project activities would affect BLM land within and outside the AFNM, State Trust land managed by ASLD, and private land under the jurisdiction of Yavapai County or Maricopa County. APS also holds a 50-year ROW easement (No. 14-26216) with ASLD for the portion of the Navajo-Westwing transmission line that traverses Arizona State Trust land. This easement was granted on October 19, 1976, and will expire on October 19, 2026. It will not require an amendment.

Project activities include all proposed project access routes to the ROW and all other areas required for project implementation, including cable pull points and helicopter fly points ( staging areas) and refuel points. Helicopter refueling sites would not be located within the boundaries of the AFNM.

Figure 1 shows the entire length of the proposed project, and Figure 3 shows the portion of the project that is within the boundaries of the AFNM. More detailed project maps are included in the project Plan of Development that is available for public review at the BLM's Phoenix District Office, Hassayampa Field Office.

#### **2.1.1 Project Activities**

The new static fiber-optic cable is manufactured in approximately 3.5- to 4-mile reel lengths. Each cable section would be installed at designated cable "pull points," along with splice enclosers. At the cable delivery end, the project equipment would include a cable reel, a tensioner trailer pulled behind a line truck, and a four-wheel-drive pickup truck. At the cable pulling end, the equipment would include a V-

groove cable puller (winch), either mounted on or pulled behind a line truck, and a four-wheel-drive pickup truck. Each cable end would require a termination splice to be made from a van or similar-type vehicle once the cable is installed and secured on an existing transmission tower. The splice enclosers would be attached to the transmission towers approximately 14 feet above grade. Figure 4 shows the required project equipment for cable delivery and cable pulling proposed for transmission towers identified for pull points. Table 2 summarizes project activities.



Cable delivery



Cable pulling

**Figure 4. Cable Delivery and Pulling Equipment for Use at Pull Points**

Installation of the fiber-optic line would require daily de-energizing of the Navajo-Westwing 500-kV transmission line, which provides a major electric energy source to the greater Phoenix area, and shifting of power to a parallel 500-kV circuit between northern Arizona and the Westwing Switchyard. The daily “switching” of the Navajo-Westwing line would not result in outages or impacts to customers.

Each morning before de-energizing this line, the APS Operations Center would review the condition of the transmission grid and verify that completing this switching would not overburden other circuits. Once this is determined, the Operations Center would remotely open breakers at the Navajo and Westwing Switchyards. Switch operators at each Switchyard would then open disconnects and tag them as part of a clearance safety procedure. The contractor would then be notified that the switching has been completed and that work can proceed with the installation of ground cables at the work location. Each afternoon this process would be reversed, and the Navajo-Westwing 500-kV line would be placed into service for the night.

The normal work schedule for the fiber-optic installation would include extended work hours and some weekends. Project activities are scheduled to start in the third quarter of 2012 and to take up to 3 months to complete.

#### **2.1.1.1 Pull Points**

Fourteen transmission towers have been identified for the setup of cable pull-point sets (two pull points per tower) to install the new fiber-optic line. Each pull-point area would be up to 40,000 square feet (400 feet by 100 feet) in size (80,000 square feet per tower), with the equipment setup area requiring about 5,000 square feet (10,000 square feet per tower). Up to an estimated 25.2 acres of ROW would be used to set up cable pull points.

The transmission towers located between the cable pull points would be accessed to install and remove travelers (pulleys) to allow the old static cable to be removed while the new fiber-optic cable is pulled into position. The travelers would be installed and removed by a crew working from a helicopter, with the assistance of a crew working from the ground. The ground crew would consist of three to four people working from a four-wheel-drive pickup truck.

Six transmission line towers within the AFNM have been identified for the setup of cable pull points, totaling an estimated 9.9 acres. All pull points have been mapped using Global Positioning System (GPS) technology to avoid cultural resource sites. Some cleanup activity would be required within the areas identified for pull points to accommodate equipment.

Eight transmission towers are proposed for pull points between the south AFNM boundary and the Morgan Substation. Two of these eight towers are located on BLM-administered public land and total up to an estimated 3.6 acres. The remaining six towers are located on State Trust land managed by ASLD and total up to an estimated 10.8 acres. The locations of all pull points proposed for BLM-administered public land and for State Trust land have been identified with GPS technology to avoid cultural resource sites. Minimal land disturbance is anticipated at all pull points, with the possible exception of the pull-point area near Tower 238/4. Cut and fill methods may be needed on BLM land near Tower 238/4 if a pad is required for pull points.

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**Table 2. Summary of Project Activities**

<b>Tower Identified for Pull-Point Sets [1]</b>	<b>Pull-Point Land Jurisdiction</b>	<b>Pull- or Fly-Point Access Jurisdiction [2]</b>	<b>Estimated Linear Feet of Existing Route Cleanup [3]</b>	<b>Proposed Reopened Route (Spur or Extension) for Administrative Use [4]</b>	<b>BLM Asset Type</b>	<b>Maintenance Intensity for Reopened BLM Routes</b>	<b>BLM Proposed Road Decision</b>	<b>Fly Points and Refuel Points [5]</b>
209/1 (1.8 acres)	BLM-AFNM	ASLD BLM: open (9012)	Not applicable	Not applicable				1 (ASLD) (0.2 acre)
213/1 (1.8 acres)	BLM-AFNM	Yavapai County ASLD BLM: open (9018) and undesignated	Not applicable	Spur: 309 feet (0.1 acre)	Primitive Road—Limited to Administrative Use Only	1	Limited to Administrative Use Only	1 (ASLD) (0.2 acre) 2 (BLM-AFNM) (0.5 acre)
Not applicable	BLM-AFNM	BLM: open (9269)	Not applicable	Not applicable				3 (BLM-AFNM) (0.7 acre)
216/3 (1.8 acres)	BLM-AFNM	BLM: open (9269, 9269B)	Not applicable	Extension: 3,751 feet (1.2 acres) Extension: 85 feet (0.3 acre)	Primitive Road—Limited to Administrative Use Only	1	Limited to Administrative Use Only	1 (BLM-AFNM) (0.2 acre)
218/3 (fly points only)	BLM-AFNM	BLM: open (9269, 9014, 9025)	Not applicable	Not applicable				3 (BLM-AFNM) (0.7 acre)
220/3 (1.8 acres)	BLM-AFNM	BLM: open (9269, 9014, 9025, 9026, 9611) BLM: closed (9027A)	4,177 feet (1.3 acres)	Spur: 1,859 feet (0.6 acre)	Primitive Road—Limited to Administrative Use Only	1	Limited to Administrative Use Only	1 (BLM-AFNM) (0.2 acre)
222/2 (1.8 acres)	BLM-AFNM	BLM: open (9269, 9014, 9025, 9026, 9611) BLM: closed (9027A)	3,333 feet (1.1 acres)	Extension: 7,029 feet (2.3 acres) Spur: 246 feet (0.1 acre)	Primitive Road—Limited to Administrative Use Only	1	Limited to Administrative Use Only	Same fly point as for 220/3
224/3 (1.8 acres)	Private BLM-AFNM	Private ASLD BLM: open (9033)	Private: 2,248 feet (0.7 acre) BLM: 1,145 feet (0.4 acre)	Not applicable				1 (BLM-AFNM) (0.2 acre)
228/2 (1.8 acres)	ASLD	Private ASLD	Not applicable	Not applicable				1 (ASLD) (0.2 acre)
231/2 (1.8 acres)	ASLD	ASLD BLM: existing	Not applicable	Spur: 342 feet (0.1 acre) (new road on State Trust land within powerline ROW)				1 (ASLD) (0.2 acre)
234/4 (1.8 acres)	BLM	ASLD BLM: open (9999)	Not applicable	Spur: 396 feet (0.1 acre) (new road; not reopened)	Primitive Road—Limited to Administrative Use Only	1	Limited to Administrative Use Only	2 (ASLD) (0.5 acre)
238/4 (1.8 acres)	BLM	ASLD BLM: open (9950, 9954)	144 feet ( 0.1 acre) 107 feet ( 0.03 acre) 466 feet (0.2 acre)	Spur: 266 feet (0.1 acre)	Primitive Road—Limited to Administrative Use Only	1	Limited to Administrative Use Only	1 (ASLD)* (0.2 acre) 1 (BLM) (0.2 acre)
242/4 (1.8 acres)	ASLD	ASLD Private	Not applicable	Not applicable				1 (ASLD) (0.2 acre) 1 (ASLD)* (0.2 acre)

Tower Identified for Pull-Point Sets [1]	Pull-Point Land Jurisdiction	Pull- or Fly-Point Access Jurisdiction [2]	Estimated Linear Feet of Existing Route Cleanup [3]	Proposed Reopened Route (Spur or Extension) for Administrative Use [4]	BLM Asset Type	Maintenance Intensity for Reopened BLM Routes	BLM Proposed Road Decision	Fly Points and Refuel Points [5]
245/2 (1.8 acres)	ASLD	ASLD	Not applicable	Not applicable				1 (ASLD) (0.2 acre)
247/3 (1.8 acres)	ASLD	ASLD	Not applicable	Not applicable				Not applicable
248/3 (1.8 acres)	ASLD	ASLD	Not applicable	Not applicable				1 (ASLD)* (0.2 acre)
<b>Estimated total = 25.20 acres</b> <b>BLM-AFNM = 9.9 acres</b> <b>BLM-not AFNM = 3.6 acres</b> <b>ASLD = 10.8 acres</b> <b>Private = 0.9 acre</b>			<b>Estimated total = 3.83 acres</b> <b>BLM-AFNM = 2.8 acres</b> <b>BLM-not AFNM = 0.33 acre</b> <b>Private = 0.7 acre</b>	<b>Estimated total = 4.9 acres</b> <b>BLM-AFNM = 4.6 acres</b> <b>BLM-not AFNM = 0.2 acre</b> <b>ASLD = 0.1 acre</b>				<b>Estimated total = 5.0 acres</b> <b>BLM-AFNM = 2.5 acres</b> <b>BLM-not AFNM = 0.2 acre</b> <b>ASLD = 2.3 acres</b>

*Table Abbreviations:* AFNM = Agua Fria National Monument; ASLD = Arizona State Land Department; BLM = Bureau of Land Management.

*Table Notes:* [1] Two cable pull points are associated with each tower; they are up to 40,000 square feet (0.7 acre each); 80,000 square feet (1.8 acres) total in size. All project activity acreages are estimated. [2] Route numbers for existing BLM routes are shown in parentheses. [3] Entire segment of closed or undesignated BLM route may not require cleanup to allow for transport of project equipment. Proposed BLM administrative routes are assumed to be 14 ft wide. [4] Some of the proposed BLM administrative routes are located on routes that were historically used for construction of the original 500-kV Navajo-Westwing transmission line and were later closed to prevent vehicular access. These would be reopened. They are not currently designated in existing BLM travel management plans. Road "spurs" would angle away from an existing road, while road "extensions" would lengthen an existing road. The spur road in the vicinity of Tower 234/4 would be a new road. [5] Proposed fly points are not shown in Figures 1 and 3. More detailed project maps are provided in the Plan of Development that is available for review at the BLM Phoenix District Office, Hassayampa Field Office. The proposed fly points are up to 10,000 square feet (0.2 acre) in size. An asterisk (\*) indicates a fly point that may also be used as a helicopter refuel point. No helicopter refuel points are proposed on the AFNM.

## Equipment

Two work crews would be working on the fiber-optic installation in two separate locations. The installation, including pull points and fly-point project activities, is anticipated to require the following types and quantities of equipment:

- 2 helicopters and fly ropes (optional)
- 2 drum pullers
- 1 yard crane (fork lift)
- 1 splicing equipment
- 2 double-wheeled tensioners (1 light and 1 heavy)
- 2 wire-reel trailers
- 4 boom trucks
- 2 water trucks (for dust control)
- 6 pickup trucks

### 2.1.1.2 Helicopter Fly Points and Refueling

A helicopter would be used to transport project crew members and materials to identified helicopter staging areas (“fly points”) near identified pull points and may require assistance from ground crews. The helicopter would briefly land at designated fly points to wait for dispatch instructions from the crews on the transmission towers. Each fly-point area is approximately 10,000 square feet in size. An estimated 5.0 acres would be used for helicopter fly points. All fly points have been mapped using GPS technology to avoid cultural resource sites. Fly points were surveyed to ensure that all cultural resources would be avoided.

Eleven fly points for helicopter access have been identified within the AFNM, totaling an estimated 2.5 acres. A few additional fly points have been identified to provide helicopter pilots flexibility when assessing landing suitability and dealing with changing weather conditions. No access improvements are required for any of the identified fly points. Helicopters would not be refueled within the boundaries of the AFNM.

Outside the AFNM, one fly point is proposed on State Trust land north of the AFNM boundary, and one fly point is proposed on State Trust land east of Cordes Junction. South of the AFNM, one fly point (0.2 acre) has been identified on BLM-administered public land, and nine (totaling an estimated 2.3 acres) have been identified on State Trust land. Three of the fly points on State Trust land have also been identified as potential helicopter refueling sites. The contractor may identify additional refueling sites on State Trust or private land.

Refueling of equipment other than helicopters in the ROW will be necessary throughout the fiber-optic installation. As needed, fuel will be transferred from bulk storage tanks or transported from non-project-related facilities. Fuel will then be transported to a specific location within the ROW. Transfer of materials from large bulk tanks to small refueling tankers, will be performed using the appropriate equipment, including pumps, hoses, and safety equipment. All fuel nozzles will be equipped with functional automatic shut-off valves. Devices such as drip trays and sorbent pads will be used during on-site refueling to minimize spills. Before departure of any refueling tanker, all outlets will be examined by the driver for leakage and tightened, adjusted, or replaced as necessary to prevent leaking while in transit. All refueling activities would comply with the National Fire Protection Association's *NFPA 407: Standard for Aircraft Fuel Servicing* (2007).

### **2.1.1.3 Overland Access**

Overland vehicular access to the pull points would largely be accommodated via existing routes on BLM land and on State Trust land.

Within the AFNM, project vehicles would primarily use existing BLM routes that have been designated in the AFNM TMP (BLM 2010a:Appendix C). Most of the proposed APS access routes to the pull points in this area align with existing BLM "open" routes that are in generally good condition and would not require any modification for project access. Overland access to pull points associated with four transmission towers would require some cleanup activities (e.g., removal of large vegetation and moving rocks and boulders) to provide adequate ground clearance for project equipment and vehicles. Approximately 8,655 feet (2.8 acres) of existing BLM routes within the AFNM may require cleanup. Overland access to four pull points within the AFNM would require extending existing access routes and/or creating access spur routes to provide APS vehicles with a clear path between the pull points and designated BLM routes. These routes would be located primarily on reopened routes originally established to construct the powerline. Approximately 13,279 feet (4.6 acres) of reopened routes on BLM land within the AFNM are proposed. The reopened routes would be designed to BLM primitive road standards and be approximately 14 feet wide. All reopened routes have been mapped with GPS technology to avoid cultural resource sites and would be subsequently designated by BLM for limited administrative use, as part of an amendment to the AFNM TMP (BLM 2010a:Appendix C). No public use would be allowed.

Outside the AFNM, overland vehicular access to the pull points would largely be accommodated via existing roads on BLM land and on State Trust land. West of I-17, project vehicles would primarily use existing BLM routes that have been designated as part of the Table Mesa TMP (BLM 2010c). Currently, the BLM routes east of I-17 have not been designated as part of a travel management planning area. Three cleanup areas have been identified on the existing BLM route leading to Tower 238/4, totaling up to 717 feet (0.3 acre). Overland access to three towers identified for pull points would require reopening routes to provide a clear path for APS vehicles to access the pull points from existing BLM routes. Approximately 266 feet (0.1 acre) of reopened route on BLM land outside the AFNM is proposed. One new 396-foot (0.1 acre) spur road in the vicinity of Tower 234/4 is also proposed for BLM land. One new road is proposed for State Trust land near Tower 231/2, totaling an estimated 342 feet (0.1 acre).

This new road is within the existing powerline ROW. All reopened routes and new roads would avoid cultural resource sites. The reopened BLM routes and the new BLM road would be subsequently designated for limited administrative use only, as part of an amendment to the Table Mesa TMP (BLM 2010c).

### **BLM Primitive Roads**

The administrative access routes to the Navajo-Westwing transmission line ROW would be designed as BLM primitive roads in accordance with BLM Manual 9113, *Roads* (BLM 1985), *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development* (BLM and U.S. Forest Service 2007; referred to as the “Gold Book”), and BLM Handbook H-9115-1, *Primitive Roads Design Handbook* (BLM 2012a).

Primitive roads are considered by BLM to be two-track roads that meet the following conditions:

1. Road grades are 6 percent or less
2. Side slopes are 8 percent or less
3. Stable soils are present (i.e., not eroding)

The BLM primitive roads are anticipated to generally not require cutting or filling. They would not be designed as all-weather roads (crowned, in sloped or out sloped, ditched, and surfaced with aggregate). Cut and fill methods may be needed on BLM land in the vicinity of Tower 238/4 if a pad is required for pull points. There would be no drainage ditches, culverts, bridges, or low-water crossings.

### **Equipment**

The cleanup and development of overland access roads are anticipated to require the following types and quantities of equipment:

- 1 bulldozer (D-6 or D-8)
- 2 water trucks (for dust control)
- 3 pickup trucks

#### **2.1.2 Maintenance**

After the fiber-optic installation is completed, APS would continue to provide ongoing vegetation maintenance within the Navajo-Westwing ROW. APS maintenance activities on BLM land are governed by the *APS Power Line Corridor Management Plan for Vegetation Management 500-2 Navajo to Westwing Power Line* (APS 2008) and the *Amendment to APS Power Line Corridor Management Plan for Vegetation Management 500-2 Navajo to Westwing Power Line* (APS 2009).

APS would also be responsible for maintaining the BLM primitive roads designated for administrative use to provide overland access to the ROW. These BLM primitive roads would be maintained in accordance with the BLM's Manual 9115, *Primitive Roads* (BLM 2012b). The BLM would assign each primitive road to Level 1 maintenance intensity as described in the manual.

Level 1 maintenance intensity is used on routes where minimum (low intensity) maintenance is required to protect adjacent land and resource values. These routes may be impassable for extended periods of time.

Maintenance of the BLM primitive roads designated for APS administrative use would be coordinated as part of the ongoing vegetation management activities described in the *APS Power Line Corridor Management Plan* (APS 2008) and its amendment (APS 2009). Prior to initiating vegetation inspection or routine vegetation maintenance activities of these BLM primitive roads, APS would coordinate with BLM and with AGFD (to avoid and minimize conflicts during hunting seasons).

Routine vegetation maintenance would be performed to address any new growth of woody vegetation that encroaches within the BLM primitive road. This routine maintenance would not widen the corridor beyond the 14-foot administrative route and would be conducted using the same methods as the initial clearing. Ongoing maintenance would be scheduled every 5 years following the initial clearing and project implementation.

### **2.1.3 Design Features**

The project activities described as part of the Proposed Action include a number of design features to reduce or avoid adverse impacts on the sensitive resources discussed in Chapter 3. As discussed in the BLM *NEPA Handbook* (BLM 2008b), design features are typically developed as the impact analysis is being conducted and often include standard operating procedures, stipulations, and best management practices (BMPs). Proposed design features are described below in reference to a specific resource.

#### **2.1.3.1 Design Features Common to All Resources**

- To minimize disturbance of land and resources, project access to the Navajo-Westwing ROW would use existing BLM open routes and existing roads on State Trust land. Additional administrative access is proposed through the reopening of routes originally established to construct the powerline and closed routes on BLM land. BLM administrative routes would be designed to BLM primitive road standards and rely on minimal (BLM Level 1) maintenance.
- Route cleanup and reopening activities would generally consist of moving rocks and boulders (rather than blading) only to the extent needed to provide for project vehicle and equipment access to the Navajo-Westwing ROW. Where route cleanup requires more than moving boulders and rocks, the contractor would follow the procedures outlined in the POD to do this work only in spots cleared culturally, or to halt work and contact the BLM agency administrator.

- Proposed fly points have been located on disturbed areas where possible; all fly point locations have been cleared for cultural resources.

### **2.1.3.2 Air Resources**

- Project activities on BLM and State Trust lands would comply with applicable rules and regulations promulgated by the Arizona Department of Environmental Quality (ADEQ) (which includes Yavapai County), and the Maricopa County Air Quality Department. Proposed dust control measures are described in detail in the POD. They are based on agency-identified BMPs and generally include the following:
  - Surface disturbance would be reduced or avoided where possible.
  - Before beginning project activities, APS would obtain a Maricopa County Air Quality Department Dust Permit, postproject information signage per Rule 310 Section 308, and comply with Dust Control Training Requirements per Rule 309, Section 308.
  - Watering would be used in association with any grading and excavating.
  - Watering and/or use of an APS-approved dust suppressant would be used on unpaved access roads or equipment paths and at fly points.
  - Water spraying would be used on inactive areas.
  - Gravel pad, grizzly, or other track-out control device would be used at project site access points, which may result in track-out on public paved roads (as applicable/required on private paved roads).

### **2.1.3.3 Biological Resources**

#### **Sonoran Desert Tortoise**

- A desert tortoise survey was conducted in all BLM Category II desert tortoise habitat areas proposed for project activities. Proposed project activities would be located to avoid disturbance to potential Sonoran desert tortoise burrows as identified in the desert tortoise survey.
- A biological monitor that is permitted to handle Sonoran desert tortoises would be present on-site for project activities at documented potential tortoise burrows as well as at drainages that could potentially be used as a tortoise movement corridor, as identified by BLM before construction activities.
- The contractor would provide a desert tortoise worker awareness presentation to all individuals associated with project activities. This presentation would include general background on the Sonoran desert tortoise as well as information on their habitat preferences and what to do if a tortoise is encountered within the project area. Contractors would adhere to AGFD's *Guidelines*

for *Handling Sonoran Desert Tortoises* (2007) in the event desert tortoises are encountered during project activities. If any individual associated with project activities encounters a tortoise, project activities should stop and the tortoise should be allowed to move away on its own or be moved out of harm's way to adjacent habitat (following the AGFD handling guidelines).

### **Murphey Agave**

- No additional design features are proposed for Murphey agave.

### **Pronghorn**

- Project activities would occur outside the pronghorn fawning period (March–May). The BLM-identified fawning areas are outside the immediate project area.

### **Other Special-Status Species, Including Migratory Birds**

- Project activities have been proposed to start in early August and last until November 21. This is outside the breeding season (February 15 to August 1) for most migratory birds. In addition, project activities would not be conducted within riparian areas, including the *Agua Fria National Monument Riparian Corridors Important Bird Area* (Arizona Important Bird Areas Program 2011).
- Project activities would incorporate an established protocol for nesting migratory birds on BLM land that offers protections to nests that are found during vegetation maintenance work (as described in BLM and USFWS 2010).

### **Protected Native Plants**

- Project activities on ASLD-administered land that are outside the transmission line ROW and lead to land disturbance would comply with the Arizona native plant law. A Notice of Intent to clear protected native plants would be issued, if needed.

### **Vegetation, Soil Disturbance, and Invasive Species**

- Vegetation removal would be kept to a minimum to avoid disturbance wherever possible. If any soil is disturbed, it would be replaced and stabilized in accordance with guidance provided in the Gold Book (BLM and U.S. Forest Service 2007), in coordination with BLM staff.
- As discussed in the BLM Gold Book (BLM and U.S. Forest Service 2007), if surface soil material (topsoil) is disturbed, it would be removed from the entire cut and fill area and temporarily stockpiled for reuse during interim reclamation or final reclamation. The depth of topsoil to be removed and stockpiled would be determined at the on-site inspection, with BLM approval.

- Topsoil would be segregated and stored separately from subsurface materials to avoid mixing during construction, storage, and interim reclamation. Subsurface materials would not be placed on top of topsoil material at any point in the operation. Stockpiles would be located and protected so that wind and water erosion are minimized and reclamation potential is maximized.
- Fills would be compacted to minimize the chance of subsidence or slope failure. If excess cut material exists after fill areas have been brought to grade, the excess material would be stockpiled at BLM approved locations.
- Vehicles and equipment would be cleaned to remove soil and plant parts before entering public land (BLM 2008c).
- Vehicle and equipment wash stations would be established to limit weed- and invasive-seed spread into native plant communities (BLM 2008c).
- Project staging areas for refueling, maintenance equipment, materials, and operating supplies would be located in weed-free areas (BLM 2008c).
- Certified weed-free and or weed-seed-free hay or straw would be used, if needed, where certified materials are required and/or are reasonably available (BLM 2008c).

#### **2.1.3.4 Cultural Resources**

- All proposed project activity areas were surveyed for cultural resources (if previous surveys did not exist). All project routes, pull points, fly points, and activities have been located or relocated to avoid cultural resources.
- An existing access route scheduled for cleanup by APS during the fiber-optic upgrade project bisects one archaeological site, AZ N:16:353(ASM). The boundaries of the existing access route would be delineated with orange flagging along its entire length with the addition of blue and white flagging tape within the site boundaries prior to any construction related activities on the existing access route scheduled for cleanup. An Archaeological monitor who meets the Secretary of Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716) would be present for all such work.
- All project vehicles would remain on the existing access route when traveling through or conducting cleanup activities at AZ N:16:353(ASM). Under no circumstances would vehicles be parked within the site boundaries.
- Vegetation maintenance along the project access roads and in the Navajo-Westwing transmission line ROW would be guided by a BLM-approved vegetation management plan that includes cultural resource management provisions (APS 2008, 2009).

#### **2.1.3.5 Lands and Realty**

- BLM Personnel will monitor for compliance with the POD.

#### **2.1.3.6 Noise**

- Notification would be posted before beginning project activities in the AFNM, Table Mesa Recreation Management Zone (RMZ), Black Canyon City, New River, Cordes Junction/Cordes Lakes area to alert the public of project activities, including the use of helicopters, that would create short-term increases in noise near residential and recreation areas.

#### **2.1.3.7 Recreation**

- Notification would be posted prior beginning project activities in the AFNM and vicinity of the Table Mesa RMZ to alert the public of potential short-term closure of BLM route access and recreational activity areas. Options for use of alternative BLM routes would be provided. No long-term changes to public access of BLM routes are proposed.
- Project activities would be scheduled during the workweek when recreation visitation is reduced.

#### **2.1.3.8 Special Area Designations**

- Notification would be posted before beginning project activities in the vicinity of the Black Canyon National Recreation Trail segment within Table Mesa RMZ to alert the public of potential short-term closure of that trail segment and BLM route access. Options for using alternate Black Canyon Trail segments and BLM route access would be provided.
- Project activities would be scheduled during the workweek when visitation to the Black Canyon National Recreation Trail is reduced.

#### **2.1.3.9 Transportation and Travel Management**

- Proposed project access would rely primarily on existing BLM open routes. Additional administrative access to the transmission line ROW would be created by reopening historic and closed BLM routes. There would be no change in public use of the existing BLM transportation and travel management system. Gates and signage would be installed on reopened administrative routes.
- Notification would be posted before beginning project activities in the AFNM and vicinity of the Table Mesa RMZ to alert the public of potential short-term closure of BLM route access. Options for use of alternative BLM routes would be provided.

### **2.1.3.10 Visual Resources**

- No additional design features are proposed for visual resources.

### **2.1.3.11 Water Resources**

- The contractor would comply with all terms and conditions of the attached Section 404 Nationwide Permit No. 12 (Appendix D) as established by the U.S. Army Corps of Engineers, and conditions of the Section 401 Conditional Water Quality Certification, certified by ADEQ.
- The contractor would prepare a stormwater pollution prevention plan (SWPPP) and submit the Arizona Pollutant Discharge Elimination System Notice of Intent and the Notice of Termination to ADEQ.

### **2.1.3.12 Wilderness Characteristics**

- Notification would be posted before beginning activities in the AFNM to alert the public of potential short-term closure of portions of lands with wilderness characteristics (LWCs) and the presence of work crews and equipment that could temporarily disrupt the LWC qualities that visitors may be seeking.

## **2.2 No Action Alternative**

Under the No Action alternative, the application to amend the existing ROW grants on BLM-managed land would be denied. A new fiber-optic cable would not be installed on the Navajo-Westwing transmission line between the Dugas and Morgan Substations, on public land. Because of the connected nature of the Proposed Action, it is likely that the fiber-optic cable would also not be installed on private and Arizona State Trust lands. Additionally, under the No Action alternative, the AFNM and Table Mesa TMPs would not be amended and no new BLM route designations would occur.

## **2.3 Alternatives Considered but Eliminated from Detailed Analysis**

There are no alternatives considered but eliminated from detailed analysis.

## 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing natural, cultural, and built environmental conditions within the project area and the potential environmental consequences of the alternatives. The following resources were considered, but they were not analyzed in detail because they are not present in the project area or because the Proposed Action does not have the potential to affect them: climate change, environmental justice, hazardous materials, minerals and mining, prime and unique farmland, rangeland health, socioeconomic conditions, and soils.

Relevant management actions from the AFNM-RMP (BLM 2010a) and the BH-RMP (BLM 2010b) are identified for each of the resources discussed in this chapter if they are pertinent to the Proposed Action.

Mitigation measures required to minimize impacts on the environment are also discussed in association with identified impacts.

Key documents, and cited maps from the documents, used to prepare this chapter are available on BLM's web site for Arizona land use planning: <http://www.blm.gov/az/st/en/prog/planning.html>.

### 3.1 Methodology

The methodology for this assessment conforms to the guidance found in the following sections of the Council on Environmental Quality (CEQ) regulations for implementing NEPA: 40 CFR 1502.24 (Methodology and Scientific Accuracy), 40 CFR 1508.7 (Cumulative Impact), and 40 CFR 1508.8 (Effects).

#### 3.1.1 Project Area

The project area considered in this EA includes the APS Navajo-Westwing transmission line ROW between the Dugas Substation in Yavapai County and the Morgan Substation in Maricopa County and the proposed ROW access routes.

#### 3.1.2 Definition of Terms

Common terms used to describe potential environmental impacts are defined as follows:

- **Adverse:** An effect that is negative on a particular resource or a number of resources. *In this document, the term impact is assumed to be adverse unless otherwise stated.*
- **Beneficial:** An effect that is positive on a particular resource or a number of resources.
- **Direct:** An effect that is caused by the action and that occurs at the same time and place as the action.

- **Indirect:** An effect that is caused by the action but that is later in time or farther removed in distance from the action, but still reasonably foreseeable. Indirect effects may include growth-inducing effects, and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems.
- **Cumulative:** An effect that results from the incremental effect of an action when considered with other past, present, and reasonably foreseeable future actions.
- **Negligible:** An effect that has a lower level of detection; change would be difficult to measure.
- **Minor:** An effect that might result in a slight but detectable change but that would not be expected to have an overall effect.
- **Moderate:** An effect that would likely result in a measureable change and that could have an appreciable effect.
- **Major:** An effect that would likely result in a substantial change.
- **Short Term:** An effect that occurs only for a short time (during construction) after implementation of the action.
- **Long Term:** An effect that occurs for an extended period (more than 5 years) after implementation of the action.

### 3.1.3 Cumulative Effects Methodology

The CEQ defines cumulative effects (also known as cumulative impacts) as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what (federal or non-federal) agency or person undertakes such actions” (40 CFR 1508.7). The boundary of the AFNM and the Black Canyon Management Unit (BCMU) of the BH-RMP are generally considered to be the geographic scope of the cumulative impacts analysis for most resources. When this is not the case, the applicable geographic boundary is stated.

Past actions are defined in this report to have occurred within the past 50 years (1962 to 2012). This time frame allows for inclusion of the construction of I-17 (circa 1968) as a past action. Present actions are defined as those that have occurred during the NEPA environmental review (2012). Reasonably foreseeable future actions are defined as those that are currently in a planning stage with a reasonable expectation to occur over the next 20 years (2013 to 2033). Reasonably foreseeable future actions were identified on April 11, 2012, in a meeting with BLM Phoenix District Office personnel by reviewing the 2012 NEPA Project list for the Phoenix District Office and the Hassayampa Field Office:

<http://www.blm.gov/az/st/en/info/nepa/log.html>.

The intensity, or severity, of the cumulative effects considers the magnitude, geographic extent, duration, and frequency of the effects. The magnitude of the effect reflects the relative size or amount of the effect; the geographic extent considers how widespread the effect may be; and the duration and frequency refer to whether the effect is a one-time, intermittent, or chronic event.

The past, present, and reasonably foreseeable future actions considered in the cumulative effects analysis are summarized in Table 3.

**Table 3. Summary of Past, Present, and Reasonably Foreseeable Future Actions Considered in the Cumulative Impacts Analysis**

<b>Action</b>	<b>Description</b>	<b>Resources Affected</b>	<b>Impact Area</b>
Past/Present/Future: Mining	Locatable and saleable mining activities have occurred and are expected to continue into the future, though probably at a reduced scale. Mining activities have been prohibited from occurring in the Agua Fria National Monument (AFNM) since its creation in 2000.  Currently, the project area includes 4 authorized mining claim occupancies and no pending occupancies; 2 authorized and 1 pending mineral material operations; and 7 authorized and 6 pending mining Notices of Intent.	All resources	AFNM and Black Canyon Management Unit (BCMU)
Past/Present/Future: Livestock Grazing	Livestock grazing has historically occurred within the Agua Fria watershed and are expected to continue into the future.  There are currently 10 BLM-authorized grazing allotments (11 permittees), totaling 72,587 acres (70,820 BLM acres) in the AFNM and 11 grazing allotments in the BCMU, including the Cross Y, Tee, and Rock Springs Allotments (M. Rice, project manager, BLM Phoenix District Office, personal communication, June 18, 2012).	Primarily socioeconomic, soils, biological, land use, water resources, and wilderness characteristics	AFNM and BCMU
Past/Present/Future: Black Canyon National Recreation Trail	The Black Canyon National Recreation Trail began as a prehistoric Native American pathway linking local settlements together and providing a way to travel long distances. Today the Black Canyon Trail is a nonmotorized single-track trail designed for use by equestrians, hikers and mountain bikers. It is approximately 78 miles long, stretching from the Carefree Highway (State Route 74), northward along the base of the Bradshaw Mountains, beyond State Route 69 near the town of Mayer to the Prescott National Forest.  Future development and maintenance activities are planned for the Black Canyon Trail.	Primarily land use, recreation, socioeconomic, visual, and travel management	BCMU
Past/Present/Future: Small BLM right-of-way (ROW) grants	The BLM administers ROW grants and leases for small projects (such as access roads) associated with development on private land and State Trust land.  Currently, there are 138 authorized and no pending BLM ROW grants in the project area.	Primarily land use, soils, socioeconomic	AFNM and BCMU

<b>Action</b>	<b>Description</b>	<b>Resources Affected</b>	<b>Impact Area</b>
Past: Interstate 17	Interstate 17 was completed in 1968 and is a four-lane divided access controlled facility with variable ROW widths. The interstate extends from Phoenix to Flagstaff and separates the BCMU (west) from the AFNM (east).	All resources	AFNM and BCMU
Past: Navajo-Westwing 500-kV transmission line	The Navajo-Westwing 500-kV transmission line was constructed by APS in 1972. Within the project area it is currently authorized under two BLM ROW grants and under an Arizona State Land Department lease.	All resources	AFNM and BCMU
Past: BLM Phoenix Resource Management Plan (RMP)	The Phoenix Record of Decision and RMP were completed by the BLM in 1989.	All resources	AFNM and BCMU
Past: AFNM	The 70,900-acre AFNM was designated by presidential proclamation in 2000.	All resources	AFNM
Past: Transwestern Phoenix Expansion Project natural gas pipeline.	The natural gas transmission pipeline was constructed by the Transwestern Pipeline Company in 2008 to transport natural gas from the Rocky Mountain and San Juan Basins via Transwestern's existing San Juan Lateral and mainline pipeline system.  The pipeline is generally located within the approximately 1-mile-wide multi-use transportation and utility corridor on BLM land along Interstate 17, extending from Cordes Junction on the north to Black Canyon City on the south. The pipeline deviated from the pre-existing utility corridor for a distance of about 18 miles between Cordes Junction and Black Canyon City to avoid construction within the AFNM.	All resources	BCMU
Past: AFNM-RMP	The AFNM-RMP was completed by the BLM in 2010. The AFNM includes a travel management plan as an appendix.	All resources	AFNM
Past: Bradshaw-Harquahala RMP (BH-RMP)	The BH-RMP was completed by the BLM in 2010. The RMP replaced and consolidated the Phoenix RMP, the Lower Gila North Management Framework Plan, and the Kingman Resource Area RMP into a comprehensive RMP for the Bradshaw-Harquahala planning area.	All resources	The BH-RMP planning area includes 896,100 surface acres of BLM-administered land. The project area falls within the BCMU of the BH-RMP.

Action	Description	Resources Affected	Impact Area
Past: Table Mesa Recreation and Travel Management Plan	The Table Mesa Recreation and Travel Management Plan was completed by the BLM in 2010.	Primarily recreation, and transportation and travel management	11,500-acres of BLM land near New River and Black Canyon City.
Future: Acquisition of private inholdings on BLM land with applications pending	BLM will continue to pursue the acquisition of private inholdings from willing sellers as described in existing RMPs.	Primarily land use, but all resources could be affected	AFNM and BCMU

## 3.2 Air Resources

### 3.2.1 Affected Environment

The climate in the project area is characteristic of the Sonoran Desert, with hot summers, mild winters, and annual average precipitation of about 8 inches (BLM 2007).

Air quality is evaluated by measuring ambient concentrations of pollutants known to have deleterious effects. The Environmental Protection Agency has developed National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: carbon monoxide (CO), nitrogen dioxide, particulate matter (PM<sub>10</sub>), ozone (O<sub>3</sub>), sulfur dioxide, and lead (42 USC 7409). The ADEQ regulates air quality in the state and has adopted the federal NAAQS as state standards.

The project area includes portions of Yavapai and Maricopa Counties (Figure 1). Most of Yavapai County is in attainment for all criteria pollutants and does not need a State Implementation Plan. Portions of the Phoenix metropolitan area in Maricopa County have been designated nonattainment for PM<sub>10</sub>, CO, and 8-hour O<sub>3</sub> (Maricopa County, *State Implementation Plan*). The project area south of the Maricopa-Yavapai county boundary is within the 8-hour O<sub>3</sub> nonattainment area. The PM<sub>10</sub> and CO nonattainment areas are south of the project area. The "Area A" air quality zone also contains a small portion of Yavapai County and most of the incorporated areas in Maricopa County. Area A was originally drawn by ADEQ as the area under which clean burning gasoline measures (emission testing, summer and winter fuel formulations) apply (Maricopa County, *Planning Area Maps*). The Area A boundary has also been applied to other state statutes, rules, and ordinances (such as residential wood burning) for geographic applicability.

Fugitive dust from unpaved roads and other sources is included in the larger category of particulate matter and is the most relevant criteria pollutant in this project. Fugitive dust, as defined by Arizona Revised Statutes 49-457.05, Part 6, is "particulate matter that could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening, that can be entrained in the ambient air and that is caused by human or natural activities, including the movement of soil, vehicles, equipment, blasting and wind."

## **3.2.2 Environmental Consequences**

### **3.2.2.1 Direct and Indirect Impacts**

#### **No Action Alternative**

Under the No Action alternative, there would be no direct project-related impacts on air resources. Negligible indirect impacts on air quality could intermittently result from windblown dust on unpaved existing access routes.

#### **Proposed Action**

Under the Proposed Action, an estimated total of 38.9 acres is proposed for project activities, including 25.2 acres for cable pull points, 4.8 acres of reopened BLM administrative routes, 0.1 acre of new BLM road (near Tower 234/4 outside the AFNM), 3.8 acres of cleanup of existing BLM routes (to allow for equipment access), and 5.0 acres for helicopter fly points (Table 2). Fugitive dust could potentially be generated at fly points and from grading/excavating, unpaved access roads or equipment paths, access point/planned exit locations onto areas accessible to the public, disturbed surface areas, and inactive areas.

Project design features would reduce or avoid direct impacts on air quality to a negligible level, including short-term increases in fugitive dust concentrations and emissions from project equipment.

Negligible direct impacts on air quality would also occur intermittently when the administrative routes are occasionally used for project maintenance or other purposes, resulting in localized increases in fugitive dust and vehicle emissions. Negligible indirect impacts on air quality could intermittently result from windblown dust on unpaved project access routes.

#### **3.2.2.2 Cumulative Impacts**

Past and present actions within and beyond the boundaries of the project area have contributed to the development of unstabilized travel routes and other land disturbance that have contributed fugitive dust. These land disturbances have the potential to cumulatively contribute to air quality exceedence within the PM<sub>10</sub> nonattainment area in Maricopa County (south of the AFNM boundary). The creation of the AFNM and TMPs for the AFNM (BLM 2010a:Appendix C) and the Table Mesa RMZ (BLM 2010b) should help to reduce air quality impacts from fugitive dust resulting from the development and use of unstabilized travel routes.

The administrative access routes proposed for this project are being designed to BLM primitive road standards with minimal land disturbance and other design features to reduce fugitive dust. When considered with past, present, and reasonably foreseeable future projects, the Proposed Action would contribute negligible cumulative impacts.

### 3.2.3 Mitigation Measures

Design features to reduce or avoid impacts on air resources resulting from project activities have been incorporated into the Proposed Action and are described in Chapter 2. No residual impacts to air resources are anticipated. Therefore, no additional mitigation measures are proposed.

## 3.3 Biological Resources

A Biological Evaluation (BE) was prepared for the proposed fiber-optic project to evaluate impacts on potential special-status species found within the project area (LSD 2012a). Information from the BE is summarized below.

### 3.3.1 Affected Environment

#### 3.3.1.1 Vegetation

The project area is located within the mountainous Transition Zone physiographic province at elevations between 1,300 feet and 4,100 feet above mean sea level. The project area originates at the Dugas Substation in the rolling hills north of Cordes Junction. Southeast of Cordes Junction, the line crosses the wide, flat grasslands of the northern portion of the AFNM before descending off the mesa top into Black Canyon City. From here the transmission line continues southwest through the rolling hills and valleys associated with first the foothills of the New River Mountains to the south and east and then the Bradshaw Mountain foothills to the north and west. The line then passes just south of the southeast corner of Lake Pleasant crossing flat lands before terminating at the Morgan Substation.

As the transmission line heads south through the project area the line crosses above the Agua Fria River several times before terminating at the Morgan Substation. The vegetation along the Agua Fria is variable in density and composition throughout the project area. Project access routes cross the river twice: once in the northern portion of the project area just southeast of the AGFD Horseshoe Ranch property and once further south just north of Black Canyon City. The well-established Table Mesa Road crosses the Agua Fria River at the northern project crossing; here, vegetation includes a mature cottonwood (*Populus fremontii*) overstory and a mixed vegetation understory. At the southern two-track crossing, the riverbed is sparsely vegetated with desert broom (*Baccharis sarothroides*), cottonwood, tamarisk (*Tamarix* sp.), and minimal willow (*Salix* sp.) along the river edges, and large river rocks and small boulders are found throughout the river bottom.

The northern portion of the project area is located within the Semidesert Grassland biotic community, while the southern portion is located within the Arizona Uplands subdivision of the Sonoran Desertscrub biotic community (Turner and Brown 1994a, 1994b). The transition between the two biotic communities occurs just north of the Black Canyon City area where the grasslands converge with the desertscrub along the Agua Fria drainage. Vegetation within the Semidesert Grassland biotic community in the northern portion of the project area is dominated by a variety of grasses, as well as mesquite (*Prosopis* sp.) and juniper (*Juniperus osteosperma*) trees, and cat-claw acacia (*Acacia greggii*) shrubs, as well as prickly pear cacti (*Opuntia* sp.) and agave (*Agave* sp.). Within the transitions zone between the two

biotic communities, fewer trees and shrubs were observed and more cactus, agave, and yucca (*Yucca baccata*) were documented. Vegetation in the southern portion of the project area is typical of the palo verde-mixed cacti association, which consists of a diverse assemblage of desert trees, shrubs, and various species of cacti. Vegetation is variable in density throughout the southern portion of the project area with some areas minimally vegetated and other areas, often associated with drainages, more densely vegetated. In these minimally vegetated areas the dominant vegetation includes creosote bush (*Larrea tridentata*), triangle-leaf bursage (*Ambrosia deltoidea*), prickly pear, and cholla (*Cylindropuntia* spp.). In the more densely vegetated areas creosote, bursage, prickly pear, and cholla are common, with the addition of foothills palo verde trees (*Cercidium microphyllum*), Anderson thornberry (*Lycium andersonii*), brittle bush (*Encelia farinosa*), and jojoba (*Simmondsia chinensis*), along with hedgehog cacti (*Echinocereus* sp.) and pincushion cacti (*Mammillaria* sp.).

Vegetation within the Navajo-Westwing transmission line ROW on BLM land is managed according to the *APS Power Line Corridor Management Plan for Vegetation Management* (APS 2008) and its amendment (APS 2009). Routine vegetation maintenance of the ROW is scheduled cyclically approximately every 5 years.

## Native Plants

Numerous plants are protected under the Arizona Native Plant Law. Although a native plant inventory was not conducted as part of the survey of the project area, protected native plants would be anticipated to be found within the project limits. These could include but are not limited to agave, yucca, cactus (*mammillaria* sp. and *opuntia* sp.), ocotillo, and mesquite and palo verde trees.

### 3.3.1.2 Special-Status Species

The BE included a review of federal threatened, endangered, proposed, candidate, and conservation-agreement species under the federal Endangered Species Act (ESA) potentially occurring in Maricopa and Yavapai Counties; BLM sensitive species occurring in Arizona; and AGFD wildlife of special concern and/or species of vulnerability to determine whether any special-status species have the potential to occur in the project area. In addition, the BLM AFNM biologist was contacted to determine whether there were any species-specific concerns. Table 4 lists the three species that were identified and evaluated in detail in the BE prepared for this project. The Sonoran desert tortoise was brought forward by the BLM and pronghorn by the AGFD as species of concern for this project.

**Table 4. Special-Status Species Potentially Occurring in the Project Area**

Common Name	Scientific Name	Status
Desert tortoise, Sonoran population	<i>Gopherus morafkai</i>	ESA C
Murphey agave	<i>Agave murpheyi</i>	BLM S
Pronghorn	<i>Antilocarpa americana</i>	BLM wildlife of interest

*Table Source:* List of threatened, endangered, and candidate species potentially occurring in Maricopa and Yavapai Counties (USFWS 2012); *Sensitive Species List for Arizona* (BLM 2010d); AFNM-RMP (BLM 2010a).

*Table Abbreviations:* ESA = Endangered Species Act; BLM = Bureau of Land Management; C = candidate; S = sensitive species.

## Sonoran Desert Tortoise

The project area includes habitat for the Sonoran population of the desert tortoise, now recognized as a distinct species *Gopherus morafkai* (previously *G. agassizii*) that occurs east and south of the Colorado River. The adult desert tortoise is fairly large (8–15 inches in length), with a high-domed brownish carapace and yellowish unhinged plastron, short tail, and stocky limbs (AGFD 2010). The Sonoran population of the desert tortoise is not listed under the ESA but is considered a candidate for federal listing. The Sonoran desert tortoise is protected from collection under Arizona law.

Sonoran desert tortoises typically inhabit bajadas and rocky slopes associated with Mojave desertscrub, Sonoran desertscrub, semidesert grassland, and chaparral. Most often, tortoises will excavate shallow burrows in deeper soils at the base of boulders and rock outcrops; however, caliche caves and the incised, under-cut banks of washes are also important shelter sites. Desert tortoises may also rest directly under live or dead vegetation without constructing a burrow, particularly on warm summer nights (AGFD 2010; Arizona Interagency Desert Tortoise Team [AIDTT] 1996). Additionally, recent studies have documented tortoise occurrences (in low densities) in intermountain valleys. Here, tortoises have been found in areas without boulder-strewn slopes; they will select habitat with canopy cover provided by perennial vegetation and will concentrate in areas with suitable shelter sites (Grandmaison et al. 2010; Riedle et al. 2008).

Threats to the Sonoran desert tortoise include habitat loss and fragmentation from urban, agricultural, and road development, along with wildfires associated with invasion of exotic annual grasses and forbs; illegal collection; predation by feral dogs; irresponsible off-road vehicle use; and disease (AGFD 2010; AIDTT 1996).

The south-central portion of the project area, from just north of Black Canyon City south through the remainder of the project area falls within the known occurrence area for Sonoran tortoise. Tortoises have been documented along the Agua Fria drainage and in the foothills of both the New River Mountains to the east of the project area and the southern Bradshaw Mountains to the west of the project area (AGFD 2004).

Some of the habitat within this portion of the project area has been impacted by recreational activities including off-road vehicle usage, camping, and target shooting, as well as garbage dumping. In areas of high recreational activities the landscape is void of vegetation or vegetation has been driven over or is covered in a light layer of dust and does not appear as healthy as other vegetation away from the road access. In addition some areas are littered with shell casings and garbage associated with use (e.g., shell boxes, store bags, food and beverage containers, and items to shoot at). In areas with this type of use it is unlikely that a tortoise will be found.

BLM's designations of desert tortoise habitat include Categories I–III, with Category I habitat being most valuable and receiving the most protection, and Category III habitat the least valuable and receiving the least protection. The project area includes some BLM Category II desert tortoise habitat. The Category II designation includes those lands where (1) the habitat area may be essential to maintenance of viable populations, (2) most conflicts are resolvable, (3) there are medium- to high-

density tortoise populations or low-density populations contiguous with medium- or high-density populations, and (4) populations are stable or decreasing (Spang et al. 1988). The goals identified by BLM for Category II habitat areas include maintaining stable, viable populations and halting further declines in tortoise habitat values (Spang et al. 1988).

### *Sonoran Desert Tortoise Field Survey*

BLM requested field surveys for Sonoran desert tortoise in BLM-managed Category II desert tortoise habitat in areas with potential for land disturbance from project activities. Field surveys were performed in April 2012 along specified portions of the proposed administrative access routes and at pull and fly points on BLM administered land with a Category II desert tortoise habitat designation. One potential burrow was located under a large boulder just outside of a pull point. Dirt had been excavated to create the burrow but there was no sign of recent use (i.e., no tortoise scat, no fresh dirt excavations). The pull point is crossed by a small drainage that flows from the foothills east toward the Agua Fria River, and the drainage could potentially be used as a movement corridor for the tortoise. Overall, the pull-point location has low-quality tortoise habitat, but the area may be used for tortoise movements and includes at least one tortoise shelter site.

### **Murphey Agave**

Murphey agave is a perennial succulent with long, light blue-green to dark green leaves that curl inward. Flowers are waxy cream-green with purplish or brownish tips and a stalk that reaches 3-4 meters tall (Arizona Rare Plant Committee 2001). Murphey agave is found in the Arizona Upland subdivision of the Sonoran desert at elevations between 1,300 feet and 3,200 feet, and is usually found on benches or alluvial terraces on gentle bajada slopes in close proximity to major drainage systems in desert scrub (AGFD 2003). Having been cultivated by the Hohokam, this species is frequently found near pre-Columbian agricultural or settlement features. Murphey agave does not receive federal protection under the ESA, but it is on the BLM list of sensitive species and protected under the Arizona Native Plant Law.

The south-central portion of the project area, from approximately Black Canyon City and the very southern tip of the AFNM to just south of Lake Pleasant, falls within the known occurrence area for the agave (AGFD 2003). Murphey agave has been documented within the central and southern portion of the project area along the Agua Fria drainage, and within the Bradshaw Mountains to the west of the project area and New River Mountains east of the project area.

Some of the habitat within this portion of the project area has been impacted by recreational activities including off-road vehicle usage, camping, and target shooting. In areas of high recreational activities the landscape is void of vegetation or vegetation has been driven over or is covered in a light layer of dust and does not appear as healthy as other vegetation away from the road access.

Species specific surveys for Murphey agave were not conducted for this project, however the known range for this agave is similar to the desert tortoise within the project vicinity and presence/ absence

surveys were conducted for the tortoise in areas with proposed ground disturbances. These include specified portions of the access routes and certain pull points and fly points on BLM administered land. During these surveys no incidental observations of Murphey agave were documented.

## **Pronghorn**

While pronghorn are not considered a special-status species for the U.S. Fish and Wildlife Service (USFWS) or the BLM, it is a species of conservation interest and is of economic importance to the AGFD. The AFNM-RMP details in length the commitment BLM has to preserving and protecting wildlife habitat for the pronghorn (BLM 2010a). The very first key management decision in the Approved Plan includes allocation of wildlife habitat areas for pronghorn fawning and movement corridors as well as to manage for the avoidance of habitat fragmentation and to provide conditions that promote seasonal migrations and fawning behaviors.

Pronghorn are relatively small in size, with males weighing about 120 pounds and females around 105 pounds; they generally reach approximately 3 feet tall at the shoulder. Five subspecies of pronghorn are recognized in North America, with three historically occurring in Arizona. The pronghorn that reside in central Arizona are the American or Common pronghorn and are found throughout most of the range from Canada south into northern Arizona (USFWS 2002). Most pronghorn are found on open grasslands or shrub-steppe habitat between 4,000 and 6,000 feet in elevation. Pronghorn habitat includes open, flat valleys with short stature (less than 30 inches) vegetation (USFWS 2002). Pronghorn travel in herds during the winter; in springtime, males start defending territories that could be up to a square mile in size. Females are attracted to males that can provide good feeding grounds for their fawns that are born from late April to June (USFWS 2002).

The Unit 21 pronghorn herd (named for AGFD Game Management Unit 21) is known to reside within the project area. This herd is bound by I-17 to the west and extends to the Verde River to the east; the north-south extents range from approximately Camp Verde in the north to New River in the south. The southern portion of their core area includes the Perry Mesa area within the central portion of the AFNM. BLM has identified both pronghorn fawning habitat and pronghorn movement corridors within the project vicinity on the AFNM (BLM 2010a). Within the project area there are two areas that have been identified as pronghorn movement corridors; in the far north portion of the project area near Tower 209/1 and within the north-central portion of the project area near Tower 213/1, as well as along Table Mesa Road and the access road to Tower 213/1. No pronghorn fawning habitat is identified in the immediate project area.

## **Other Special-Status Species**

A number of additional special-status species are included on the USFWS list and the BLM sensitive species list but are not addressed in detail in this EA because the BE determined that there would no potential for impact. A list of these species is provided in Appendix A; the table provides the species name, status, habitat requirements, and the rationale for not providing a detailed analysis.

## *Migratory Birds*

The Migratory Bird Treaty Act (MBTA) is a US federal law that makes it unlawful to harm migratory birds or their nests. The MBTA offers protections to migratory birds; as such it is important to identify potential migratory bird breeding habitat within the project area. The BE evaluated all special-status species that may occur within the project area and it was determined that migratory birds would not be impacted by project activities as project activities would occur outside the breeding season.

The Bald and Golden Eagle Protection Act prohibits the “taking” of bald eagles, including their parts, nests, or eggs and “disturbing” (to agitate or bother) a bald or golden eagle to a degree that it causes injury, decrease in productivity, or nest abandonment. Within the BE, both bald and golden eagles and their habitats were evaluated and were excluded from further analysis as the project would occur outside of the breeding season.

The BLM and USFWS have entered into a Memorandum of Understanding (MOU) to promote the conservation of migratory birds (BLM and USFWS 2010). One of the responsibilities that BLM has in regards to this MOU is to consider any special designation that apply to the project area, such as Important Bird Areas. The *Agua Fria National Monument Riparian Corridors Important Bird Area* (Arizona Important Bird Areas Program 2011) includes 26.3 square miles of plateaus and mesas deeply cut by the Agua Fria River and its major tributaries. The riparian corridor associated with the Agua Fria River is the major attractor for birds in this area. Much of the riparian area includes mature, native riparian woodlands composed of cottonwoods, willows, sycamores, and mesquite. This riparian woodland provides both breeding and wintering habitat for a number of bird species, including 28 species with special conservation status in the area.

### **3.3.1.3 Invasive Species**

Invasive plant and animal species occur throughout the project area. Executive Order 13112 on invasive species defines an invasive species as an “alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health” (64 FR 6183). Invasive plant species known to occur within the AFNM and BH-RMP area include African mustard (*Brassica tournefortii*); fountain grass (*Pennisetum alopecuroides*); buffleggrass (*Cenchrus ciliaris*); wild oats (*Avena fatua*); saltcedar (*Tamarix ramosissima*); and Malta’s star thistle (*Centaurea melitensis*), which occurs within the AFNM. Invasive aquatic plants are also known to occur within some riparian areas. Other species are also likely to occur because of the presence of suitable conditions, substrates, or both. Invasive animals, both terrestrial and aquatic, include starlings (*Sturnus vulgaris*), crawfish (*Procambarus clarkii*), bullfrogs (*Rana catesbeiana*), spiny soft-shell turtles (*Trionyx spiniferus*), mosquitofish (*Gambusia affinis*), and green sunfish (*Lepomis cyanellus*). Invasive species can be detrimental to the environment because they can directly harm native species and, in turn, general ecosystem functions.

### 3.3.2 Environmental Consequences

#### 3.3.2.1 Direct and Indirect Impacts

##### **No Action Alternative**

Under the No Action alternative, there would be no direct or indirect project-related impacts on vegetation, native plants, special-status species, and invasive species.

##### **Proposed Action**

###### *Vegetation*

Under the Proposed Action, potential disturbance to vegetation could occur in areas proposed for pull points, fly points, existing route cleanup, and reopened administrative routes. The potential for vegetation removal and land disturbance was minimized by locating fly points on unvegetated and highly disturbed areas where possible, using existing access routes, minimizing the need for route cleanup, locating administrative access on reopened routes, and designing administrative access routes to BLM primitive road standards. Vegetation removal may be needed in some cases to allow for equipment access. On BLM land, all project activities would follow the established vegetation management plan and amendment already in use on BLM ROW within the AFNM (APS 2008, 2009) through a new plan amendment. Therefore, negligible impacts on vegetation would be expected in areas proposed for project activities.

###### *Protected Native Plants*

Electrical transmission ROW and distribution facilities are exempt from all laws and regulations under the Native Plant Law (Arizona Revised Statutes, Chapter 7, Article 1:3-915A), therefore Notice of Intent to clear protected native plants to the Arizona Department of Agriculture for areas within the transmission line ROW is not necessary. Project activities within the ROW on BLM land within the AFNM would follow the *APS Power Line Corridor Management Plan* (APS 2008) and its amendment (APS 2009), and therefore, Notice of Intent to clear protected native plants would not be necessary. Project activities that are outside the ROW but within BLM-administered land would also be covered under the *APS Power Line Corridor Management Plan* and its amendment (through a new plan amendment), and therefore, Notice of Intent to clear protected native plants would not be necessary.

###### *Sonoran Desert Tortoise*

Direct impacts to Sonoran desert tortoise could occur from roadway improvements (1,909 feet) and the reopening of access roads (662 feet). With the design features described in Chapter 2, Proposed Action and Alternatives, the project has been designed to avoid or reduce potential impacts to desert tortoise habitat. Therefore, no direct impacts to Sonoran desert tortoise would be anticipated.

Recreational activities are already high in the south and central portion of the project vicinity; with improved road access additional recreational traffic may increase. Access roads, pull points, and fly points that are established as part of the project would be used only for administrative access following completion of the project and would be closed to the public. Administrative road access would be controlled through signage and access gates. These measures are intended to minimize public access to the transmission line ROW and to more remote areas. There is the potential for some increased recreational activity in the project area, but such an increase would have a negligible impact on the tortoise as the areas slated for road cleanup are quite small (0.49 mile total). Therefore, there is potential for negligible indirect impacts to the Sonoran desert tortoise.

### *Murphey Agave*

Construction equipment including four-wheel-drive pickup trucks, line trucks, and cable reels would be driven to pull points and fly points along both existing access roads and reopened administrative access roads. Road cleanup would also be required in some areas to allow for equipment access to the ROW. Direct impacts to individual Murphey agave could occur from the cleanup of existing roads and the reopening of access routes. Five pull points and four fly points and their associated access routes that need clearing activities have been identified in the central and southern portion of the project area on BLM land. Negligible, direct and indirect impacts on Murphey agave are anticipated because this portion of the project area has been previously disturbed by construction of the existing transmission line, the maintenance associated with the ROW, and recreational activities in the project vicinity.

### *Pronghorn*

Project activities would occur outside the fawning period (April–June) and the BLM-identified fawning areas are outside the immediate project area. BLM-identified pronghorn movement corridors are within the project area and project activities may occur during seasonal pronghorn movements. Proposed project activities may impact individual pronghorn due to short-term disturbances, but are not likely to result in a trend toward federal listing or loss of viability. If pronghorn are near pull points, fly points, or along project access roads, they could temporarily vacate the area. Pronghorn would likely leave the area when project activities are occurring. Therefore, negligible to minor direct short-term impacts to pronghorn could result if the animals are present where project activities are occurring. No indirect impacts on pronghorn are anticipated.

### *Other Special-Status Species, Including Migratory Birds*

A number of additional other special-status species are included on the USFWS list and the BLM sensitive species list but are not addressed in detail in this EA because the BE determined that there would be no potential for impact. This list included both the bald and golden eagle, both of which are protected under the Bald and Golden Eagle Protection Act. The BE evaluated both of these species and determined that there would be no impacts to the species as project activities would occur outside the breeding season.

Project activities are scheduled to start in early August (following BLM's formal Notice to Proceed) and last until November 21. As such, it is unlikely that there would be any impacts to nesting migratory birds, because project activities would occur outside the breeding season (February 15 to August 1) for most migratory birds. In addition, APS has an established protocol for nesting migratory birds on BLM land that offers protections to nests that are found during vegetation maintenance work (BLM and USFWS 2010). The project may result in the loss of some existing vegetation along 0.49 mile of access roads that may require vegetation and boulder removal; however, there would be negligible indirect impacts to migratory bird habitat from this loss because of the large amount of surrounding habitat that would still be available for foraging and breeding activities in the future. In addition, project activities would not be conducted within riparian areas; therefore, no direct or indirect impacts to riparian vegetation associated with the Agua Fria National Monument Riparian Corridors Important Bird Area are anticipated.

### *Invasive Species*

Project design features have been incorporated into the Proposed Action to reduce and avoid the introduction and spread of invasive species in the project area. Therefore, no direct or indirect adverse impacts are anticipated.

### **3.3.2.2 Cumulative Impacts**

Past and present actions in the AFNM and BCMU have adversely contributed to habitat fragmentation, degradation, and loss of wildlife habitat and related impacts on wildlife and native vegetation. The presidential proclamation creating the AFNM and the AFNM-RMP (BLM 2010a) provides a higher level of resource protection for habitat and species within the AFNM boundaries. The BH-RMP also provides for improved management of biological resources within the planning area. Future acquisition of private inholdings by BLM will also facilitate more coordination in landscape-level management activities that benefit biological resources. Because direct and indirect impacts of the Proposed Action would be negligible to minor and short-term, the Proposed Action would not contribute to cumulative impacts on vegetation, native plants, special-status species, and invasive species.

### **3.3.3 Mitigation Measures**

Design features to reduce or avoid impacts on biological resources resulting from project activities have been incorporated into the Proposed Action and are discussed in Chapter 2. Additional mitigation measures are proposed below to address any residual adverse impacts.

#### **3.3.3.1 Sonoran Desert Tortoise**

- If residual impacts on Sonoran desert tortoise occur, compensation would be provided by replacing habitat or providing substitute resources or environments consistent with the *Desert Tortoise Mitigation Policy* (BLM 2012c).

## **3.4 Cultural Resources**

### **3.4.1 Affected Environment**

#### **3.4.1.1 Agua Fria National Monument**

The AFNM contains more than 450 known archaeological sites, including large prehistoric ruins and rock art. The AFNM has potential to contain thousands of sites; less than 5 percent of the AFNM has been inventoried for cultural resources.

The Perry Mesa Archaeological District generally lies within the southern portion the AFNM and in a portion of the Tonto National Forest (Figure 3). Multiple private land inholdings are also encompassed by the AFNM. The District is listed on the National Register of Historic Places and was created in 1974, when much of Perry Mesa consisted of State Trust land and land administered by the Tonto National Forest. The original District covered 960 acres. Between 1980 and 1990, the BLM successfully initiated efforts to acquire the state land in the Perry Mesa area, to bring them under long-term federal protection (Stone 2000). In 1996, the BLM, in cooperation with the Tonto National Forest , radically expanded the District to its current size of approximately 50,000 acres. Only about 38,000 acres is included in the AFNM; the remainder is on Tonto National Forest land. The District represents a cultural landscape defined by a well-preserved settlement system of communities occupied between A.D. 1250 and 1450.

The BLM recognized the significance of these resources in designating the Perry Mesa Area of Critical Environmental Concern in the Phoenix RMP (BLM 1988). The designation was subsequently removed when the AFNM was established by presidential proclamation because the proclamation affords a higher level of protection and management (BLM 2010a). Although prehistoric sites represent most of the known cultural resources, the AFNM also contains historic sites, including historic ranching features and the once lucrative Richinbar Mine.

Prehistoric sites on Perry and Black Mesas have suffered extensive damage from vandalism and artifact theft over decades. Since early 2000 BLM, has increased its levels of patrol and site surveillance.

#### **3.4.1.2 Table Mesa**

The Black Canyon Corridor Special Cultural Resource Management Area (SCRMA) encompasses the Table Mesa RMZ. The SCRMA includes a diverse range of prehistoric archaeological sites and sites associated with historic ranching and mining (BLM 2010c). The historic Black Canyon Sheep Driveway passed through the area. The BH-RMP emphasizes the continued monitoring and protection of sites in the SCRMA, and allows for interpretive development at selected sites. Tribal consultation for protection of cultural resources has occurred and will continue to occur for the SCRMA.

Identified cultural resources in Table Mesa RMZ and other portions of the project area outside the AFNM are listed in the statewide AZSITE database. This database lists more than 1,500 archaeological

sites in the BH-RMP area, including slightly more than 200 BLM-administered sites. Similar to the AFNM, the BH-RMP area has approximately a five percent level of archaeological survey coverage. The inventoried areas are clustered near urban development and along transportation routes, utility lines, and the Central Arizona Project aqueduct. The incomplete status of the AZSITE database and the limited level of survey coverage suggest that there is potential for several thousand prehistoric and historic sites that have yet to be discovered on public land in the area. The highest density of prehistoric sites outside the AFNM is along the Agua Fria River and other streams north of Phoenix. These data, although incomplete, may well reflect the distribution of prehistoric populations, which tend to cluster near perennial streams and water sources. Several mountain ranges, notably the Bradshaw foothills, the White Tanks, the Harquahalas, and the Harcuvars, also appear to have relatively high prehistoric-site densities near springs, natural tanks, and wild plant and animal resources.

Historically, Pima groups of the O'odham people lived in the southern portion of the Bradshaw-Harquahala planning area, generally south of the Bradshaw foothills and east of the Hassayampa River. These groups claim cultural ties to the archaeological Hohokam culture, who occupied much of central and southern Arizona during the late prehistoric period. Their descendants now live in the Salt River Pima-Maricopa, Gila River, and Ak-Chin communities.

The Yavapai occupied the remaining portions of the planning areas, including the AFNM. The Kewevkapaya (Southeastern Yavapai) lived in the Bradshaw Mountains and river basins west of the mountains. The Yavepe (Central Yavapai) occupied the area around present-day Prescott, and the Tolkapaya (Western Yavapai) lived in the desert and mountains of western Arizona. The Yavapai now live in the Fort McDowell, Prescott, Middle Verde, and Clarkdale communities.

The Maricopa and Mohave tribes, who spoke Yuman languages and lived along the Gila and Colorado rivers, likely hunted or collected natural resources in the western portion of the planning area. The Hopi, who currently reside approximately 250 miles northeast of Phoenix, have oral traditions that describe extensive migrations throughout Arizona. The presence of Hopi Yellow Ware pottery at prehistoric villages in the AFNM demonstrates cultural interaction with ancestral Hopis.

These affiliated tribes have expressed concerns regarding the preservation of prehistoric archaeological sites. In particular, tribes attribute special significance to rock art, springs, habitation sites, and prehistoric cemeteries.

#### **3.4.1.3 Cultural Resources Surveys: Navajo-Westwing Transmission Line Corridor and Horseshoe Ranch**

Archaeologists from the Museum of Northern Arizona surveyed the Navajo-Westwing transmission line project corridor between 1970 and 1973. This survey—the first phase of the Navajo Project—was conducted in advance of transmission line construction and resulted in the identification of 88 sites within a 330-ft-wide corridor. The entire 262-mile Navajo-Westwing line was recently re-surveyed from the Navajo Generating Station near Page, Arizona to the Westwing Substation near Surprise, Arizona (Laurila et al. 2011). This survey included all of the state- and federal-land portions of the Navajo-

Westwing corridor within the project area. A total of 262 sites were identified and recorded, including all of the Museum of Northern Arizona sites that had not been destroyed during construction of the line. The corridor width for most of the cultural resources survey was 355 feet wide. The segment of the corridor between transmission Towers 220/3 to 226/2 and 220/2 to 226/2 within the AFNM was 475 ft wide. The remainder of the corridor within the AFNM was 335 ft wide. The results of these surveys have been summarized in a report (LSD 2012b), which has been provided to BLM for review.

The historic Horseshoe Ranch, an in-holding within the AFNM, was also surveyed for cultural resources when the property was acquired by AGFD (Rayle and Watkins 2011). Thirteen sites were identified and recorded within the project area.

Any areas proposed for project activities related to the proposed Dugas to Morgan fiber-optic installation that were not included in the APS transmission line ROW survey were subsequently surveyed for cultural resources as part of the NEPA environmental review. A cultural resources report was prepared to document survey results and has been provided to BLM for review.

### **3.4.2 Environmental Consequences**

#### **3.4.2.1 Direct and Indirect Impacts**

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470), a project adversely affects a historic property if it alters the characteristics that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property.

“Integrity” is the ability of a property to convey its significance, based on the property’s location, design, setting, materials, workmanship, feeling, and association. Adverse effects can be direct or indirect, and include reasonably foreseeable impacts that may occur later in time, be farther removed in distance, or be cumulative.

#### **No Action Alternative**

Under the No Action alternative, there would be no project-related impacts on cultural resources.

#### **Proposed Action**

The proposed project has been designed to avoid all identified cultural resources sites. Reopened administrative access routes would be closed to the public to avoid the potential for indirect impacts on cultural resources. Therefore, under the Proposed Action, there would be no impacts on cultural resources.

#### **3.4.2.2 Cumulative Impacts**

Past and present actions in the AFNM and BCMU have likely contributed to adverse impacts on cultural resources through land disturbance and general human use of the area. The presidential proclamation that established the AFNM and the AFNM-RMP (BLM 2010a) provides a higher level of resource

protection for cultural resources within the AFNM boundaries. The BH-RMP also provides for improved management of cultural resources within the planning area.

Under the No Action alternative, there would be no cumulative impacts on cultural resources.

The Proposed Action would avoid direct impacts on cultural resources and the reopened administrative access routes would be closed to public use to avoid indirect impacts. When considered with past, present, and reasonably foreseeable future projects, the Proposed Action would not contribute to cumulative impacts on cultural resources.

### **3.4.3 Mitigation Measures**

Design features to avoid impacts on cultural resources resulting from project activities are described in Chapter 2. No residual impacts to cultural resources are anticipated. Therefore, no additional mitigation measures are proposed.

## **3.5 Lands and Realty**

### **3.5.1 Affected Environment**

Most of the project area is on BLM-managed land administered by the Phoenix District Office, Hassayampa Field Office. This includes the AFNM and BLM-managed federal land in the BCMU of the BH-RMP planning area in portions of Yavapai and Maricopa Counties. The project area also includes ASLD-administered State Trust land north and south of the AFNM and a small amount of private land.

#### **3.5.1.1 Bureau of Land Management: Public Land**

Two BLM RMPs govern federal land use in the project area. Land use management in the AFNM is primarily governed by the AFNM-RMP (BLM 2010a).

The project area that includes BLM public land north and south of the AFNM is governed by the BH-RMP (BLM 2010b). The project area includes portions of two planning-area management units within the BH-RMP. The Upper Agua Fria River Basin Management Unit applies to BLM land between the Dugas Substation and the AFNM boundary in the north project area. The BCMU applies to BLM land east and south of the AFNM in the project area.

Within the project area, there are 138 authorized ROWs in the AFNM and BCMU and no pending ROWs. This includes 9 authorized and 5 pending Special Recreation Permits, 2 authorized Apiary Permits, 2 authorized and 1 pending Recreation and Public Purpose Leases, 7 authorized and 6 pending Notices of Intent for mineral exploration; 4 authorized mining claim occupancies; and 2 authorized and 1 pending mineral material operation (Appendix B).

## **Agua Fria National Monument**

The AFNM was established by presidential proclamation in January 2000. The 70,900-acre national monument is located in Yavapai County and consists of Perry Mesa and Black Mesa, the public land to the north of these mesas, and the Agua Fria River Canyon. Scattered private land (1,444 acres) and the AGFD-managed Horseshoe Ranch are within its boundary (BLM 2007). Recreation, hunting, and ranching are the most common uses of these lands. As a requirement of the proclamation, all federal land and interests in land within the AFNM are appropriated and withdrawn from all forms of entry, location, selection, sale, leasing, or other disposition under the public land laws to further the purposes of this national monument. Although existing withdrawals, reservations, or appropriations are not revoked within the AFNM, federal land may not be disposed of. Land and interests in land within the AFNM that are not owned by the United States are reserved as a part of the AFNM upon acquisition of title by the United States.

### **3.5.1.2 Arizona Game and Fish Department: Horseshoe Ranch**

On October 9, 2010, the Arizona Game and Fish Commission voted to approve state funding for the AGFD to acquire the 199-acre Horseshoe Ranch (within the AFNM) from private landowners. The AGFD is planning to utilize the property for outreach, education, recreation, and public access, as well as the base property for livestock operations on the Horseshoe and Copper Creek Allotments pursuant to interagency and cooperative agreements previously approved by the Arizona Game and Fish Commission, Tonto National Forest, and BLM. The three agencies are creating a tri-agency stakeholder-based collaborative process for development of a Coordinated Resource Management Plan for the joint management of the two allotments. The two allotments are outside the project area.

### **3.5.1.3 Arizona State Land Department: State Trust Land**

The State Trust land north and south of the AFNM is managed by ASLD. State Trust land is distinguished from the BLM public land in that all uses of the State Trust land must benefit the 13 trust beneficiaries, including public schools and other public institutions. ASLD's trust management responsibilities include requiring a permit or lease and charging a fee for use of State Trust land. Exceptions to this requirement are licensed hunters and fishers, actively pursuing game or fish in season, and certain archaeological activities permitted by the Arizona State Museum. Most of the State Trust land is currently usable only for livestock-grazing purposes (ASLD, *Land Department Historical Overview*). As Phoenix and other Arizona metropolitan areas have expanded into these areas, some State Trust land in these urbanizing areas has become part of ASLD's Urban Lands Lease and Sale Program.

### **3.5.1.4 Local and Private Lands, including Cross Y Ranch**

Private land is scattered throughout the project area, including 1,444 acres of private land within the AFNM. The Navajo-Westwing transmission ROW crosses the privately held Cross Y Ranch, including a proposed access road, in the south area of the AFNM. Outside the AFNM, the project area includes private and county-maintained roads proposed for access to the ROW.

Seven hundred acres of the Cross Y Ranch's 800-acre ranch headquarters was acquired by The Conservation Fund in May 2012 because of its location within the boundaries of the AFNM. The BLM has expressed support for The Conservation Fund's efforts to acquire, through purchase, private inholdings within and adjacent to the AFNM. The AFNM is a BLM-approved Land and Water Conservation Act acquisition project area, and the BLM Phoenix District Office is enthusiastic about the acquisition opportunities that exist here. If and when federal appropriations become available, BLM has an interest in working with The Conservation Fund to secure critical land associated with the Cross Y Ranch, which consists of a 626-acre inholding (not including the 92-acre ranch headquarters), two 40-acre inholding parcels on Black Mesa, and a 1,278-acre (two-section) parcel bounded by the AFNM on the north, the Tonto National Forest on the east, and BLM and State Trust land on the south. These parcels include substantial water rights, nearly 1 mile of the Agua Fria River, more than 2 miles of Squaw Creek, wildlife migratory corridors, cultural resources, and opportunities for public access to AFNM land. Land acquired by The Conservation Fund and then purchased by the BLM would further the protection of resources within the AFNM, which was the intent at the time of designation.

### **3.5.1.5 Land Use**

#### **Utility and Communications Corridors**

The existing corridors in the project area were designated in accordance with BLM's regulations in effect at the time of corridor designation. While the corridor locations have not changed since they were shown in the 1983 *Lower Gila North Management Framework Plan* and the 1988 *Phoenix RMP and EIS*, the regulatory framework and adjacent BLM area designations have changed (cited in BLM 2007).

There are two existing transmission line ROWs, including the Navajo-Westwing ROW, within the AFNM. Both comply with BLM regulations as prior existing uses. A portion of the designated Black Canyon utility corridor parallels I-17 and edges into the AFNM along its western boundary (BLM 2007). New utility corridors are prohibited from being designated on AFNM land because of its national-monument status.

The Black Canyon multiuse utility corridor incorporates portions of the Navajo-Westwing transmission line that traverse federal land south of the AFNM. This utility corridor crosses through the Table Mesa RMZ and contains both electrical power lines and natural gas pipelines. The corridor flanks the eastern boundary of the Table Mesa RMZ, and most users pass through the corridor to access recreation sites from Table Mesa Road.

#### **Livestock Grazing**

Grazing on BLM's land in Arizona is managed under 43 CFR 4100 and is based on the Taylor Grazing Act (TGA) (43 USC 315, 315a–315r), FLPMA (43 USC 1701 et seq.), and the Public Rangeland Improvement Act (43 USC 1901 et seq.), and other executive and public land orders. Grazing leases and permits are valid for 10 years, with use reports annually submitted by leaseholders and permittees. A grazing lease authorizes grazing use on public or other land administered by BLM outside grazing

districts under Section 15 of the TGA. A grazing permit authorizes grazing on public or other land administered by BLM within grazing districts under Section 3 of the TGA.

The Navajo-Westwing transmission ROW between the Dugas and Morgan Substations traverses four grazing allotments. From north to south, these allotments include Cosanti Ranch, Cross Y, Tee, and Rock Springs. The AFNM has 10 BLM-authorized grazing allotments (11 permittees), totaling 72,587 acres (70,820 BLM acres) (BLM 2010a). There are 11 grazing allotments in the BCMU, including the Cross Y, Tee, and Rock Springs Allotments (M. Rice, project manager, BLM Phoenix District Office, personal communication, June 18, 2012). The Navajo-Westwing power line south of the AFNM is almost completely on the Tee Allotment. It also crosses the southeast corner of the Rock Springs Allotment.

### **3.5.2 Environmental Consequences**

#### **3.5.2.1 Direct and Indirect Impacts**

##### **No Action Alternative**

Under the No Action alternative, there would be no project-related impacts on land use.

##### **Proposed Action**

APS's existing 50-year easement for the Navajo-Westwing ROW on State Trust land (No. 14-26216) allows for activities related to transmission line management within the ROW, including rights to erect, construct, reconstruct, replace, repair, and maintain the transmission facility. APS would need to secure authorization for any modification to State Trust land outside the transmission line ROW.

APS would also need to secure permission to access and potentially upgrade a portion of the access road across Cross Y Ranch if the ranch is in private ownership when the project is implemented.

Under the Proposed Action, the BLM would monitor the POD to ensure that there would be no adverse impacts on lands and realty, including no impacts on existing and pending special recreation use permits or existing and pending ROW authorizations on BLM land. Minor beneficial direct long-term impacts would result from the establishment of dedicated administrative access routes to the transmission line ROW that would be used by APS and BLM for intermittent maintenance activities and emergency access.

#### **3.5.2.2 Cumulative Impacts**

Past and present actions in the AFNM- and BH-RMP (BCMU) planning areas have led to a pattern of urbanizing development along the I-17 corridor. Livestock-grazing activity on designated allotments remains in less developed areas within and outside the AFNM under BLM, ASLD, and private ownership and has been decreasing over time. Mining also occurs outside the AFNM on BLM land in

the BCMU. The BLM is anticipated to continue to acquire private land inholdings in the future to better consolidate its management activities.

Under the No Action and Proposed Action alternatives, there would be no contribution to cumulative impacts on lands and realty.

### **3.5.3 Mitigation Measures**

Design features to reduce or avoid impacts on lands and realty from project activities have been incorporated into the Proposed Action and are described in Chapter 2. No residual impacts to lands and realty are anticipated. Therefore, no additional mitigation measures are proposed.

## **3.6 Noise**

### **3.6.1 Affected Environment**

Noise is the general term given to unwanted sound. Sound is measured in units of decibels, which is a logarithmic measure of sound power. Sound measurements are corrected to provide an approximate measure of normal human hearing. The correction to sound measurement is called the A-weighted decibel (dBA) scale; this scale provides a general correlation to a human's sensing of noise under normal circumstances. Noise control is regulated for two primary purposes: (1) to control public nuisance associated with excessive noise in the public environment; and (2) to provide worker safety with regard to chronic noise exposure that could lead to permanent hearing damage.

The BLM does not have a policy pertaining to noise for either the AFNM or the Table Mesa RMZ. The Federal Occupational Safety and Health Act (29 USC 651) protects workers from the effects of occupational noise exposure and would apply to work crews involved in the proposed project. The federal Department of Labor, Occupational Safety and Health Administration (OSHA), has adopted regulations designed to protect workers against the effects of occupational noise exposure (29 CFR 1910.95). These OSHA regulations list permissible noise exposure levels as a function of the amount of time during which the worker is exposed (Table 5). The regulations also include a hearing conservation program that involves monitoring the noise to which workers are exposed, ensuring that workers are made aware of overexposure to noise and that workers' hearing is periodically tested.

The ASLD does not have a noise policy for State Trust land.

Yavapai County does not have a noise ordinance that regulates aircraft (including helicopter noise). The Maricopa County Noise Ordinance P-23 (Maricopa County 2006) applies to unincorporated areas of Maricopa County and exempts noise "originating from aircraft in flight and sounds that originate at airports and are directly related to flight operations."

**Table 5. OSHA Worker Noise Exposure Standards**

Noise Duration (hours/day)	Noise Level (dBA)	Noise Duration (hours/day)	Noise Level (dBA)
8.0	90	1.5	102
6.0	92	1.0	105
4.0	95	0.5	110
3.0	97	0.25	115
2.0	100		

*Table Source:* OSHA (29 CFR 1910.95).

*Table Abbreviations:* dBA = A-weighted decibel; OSHA = Occupational Safety and Health Administration.

Noise-sensitive areas in the project area include the Cordes Junction/Cordes Lakes, Black Canyon City, and New River residential communities, as well as the AFNM because of its remote qualities and designated LWCs. The Table Mesa RMZ has potential to provide a remote and quiet recreational experience for visitors but is also managed by the BLM for recreational target shooting and off-highway vehicle (OHV) driving (BLM 2010c). As such, some of the recreation uses engender solitude experiences with no to negligible human-generated noise, while other recreation activities are enjoyed in larger groups and oriented around the use of motorized vehicles and recreational shooting which produce loud noise.

Sensitive receptors outside the AFNM include dispersed residences and low-density residential clusters. In some cases, they may be close to the Navajo-Westwing transmission line ROW and to proposed helicopter staging areas (fly points/refuel points).

### **3.6.2 Environmental Consequences**

#### **3.6.2.1 Direct and Indirect Impacts**

##### **No Action Alternative**

Under the No Action alternative, there would be no project-related noise impacts.

##### **Proposed Action**

Under the Proposed Action, increases in noise levels would occur in site-specific locations in the project area from construction equipment and work crews during route cleanup, reopening of administrative routes, and during the fiber-optic installation. Increases in noise levels would also temporarily occur in site-specific areas including the transmission line ROW, fly points, fuel points, and helicopter travel paths connecting these areas when a helicopter is present. The range of noise levels from operating helicopters would generally be between 82 and 96 decibels, depending on the helicopter model and the operation involved—flyover, takeoff, or approach (Bell Helicopter 2001). Increases in noise would also be expected when the administrative access roads and ROW are used by work crews for maintenance

and other activities. Therefore, minor to moderate direct short-term noise impacts would result. No long-term noise impacts would occur.

### **3.6.2.2 Cumulative Impacts**

Noise levels from past and present activities have generally increased in the AFNM-RMP and BH-RMP planning areas due to development. Elevated noise levels above ambient conditions persist in the I-17 corridor due to large volumes of motorized traffic. Elevated noise levels are also experienced more episodically outside the I-17 corridor within and outside the AFNM where motorized vehicles are used for recreation and nonrecreation purposes. Elevated noise is also created by the sound of guns shooting during hunting seasons within and outside the AFNM and by recreational target shooting outside the AFNM.

Under the No Action and Proposed Action alternatives, there would be no contribution to cumulative noise impacts.

### **3.6.3 Mitigation Measures**

Design features to reduce or avoid noise impacts resulting from project activities have been incorporated into the Proposed Action and are described in Chapter 2. No residual noise impacts are anticipated. Therefore, no additional mitigation measures are proposed.

## **3.7 Recreation**

### **3.7.1 Affected Environment**

#### **3.7.1.1 Agua Fria National Monument**

The entire AFNM is allocated as a special recreation management area encompassing three RMZs. (BLM 2010a). Most (57,650 acres) of the AFNM is managed as a Back County RMZ for recreation and public access to maintain the natural landscape character with minimal development. The 11,900-acre Front County RMZ is focused on managing recreational and interpretive opportunities. The smallest (1,350 acres) of the three areas, the Passage RMZ, is a 200-foot-wide corridor along all designated vehicle roots passing through the Back County RMZ. The existing BLM routes proposed for access to the transmission ROW fall within the Passage RMZ. The BLM manages all of the AFNM for semi-primitive motorized use according to its recreation opportunity spectrum.

The total number of recreation visitors to the AFNM was 88,005 in fiscal year (FY) 2011 (October 1, 2010, to September 30, 2011) (R. Hawes to M. Rice, BLM e-mail communication, March 6, 2012). Of those total recreation visitors, more than 20,000 visited the Badger Springs Wash area and trail. FY 2011 was the first full year of visitor data collected by way of traffic counters, which were installed at all entrances and several locations throughout the AFNM in 2010. Visitation to the AFNM was approximately 60,000 people in FY 2010, an increase of 12,000 visitors from FY 2009 (BLM 2010e).

Historically, recreation was dominated by hunters camping within the AFNM during open hunting periods for myriad game species. The most recent observed trend in visitation is oriented toward exploration of the AFNM's rich cultural resources. Day-use hiking, bird watching, and picnicking are also common non-consumptive recreation activities. Overnight camping by equestrian users is also very popular. There are no camping facilities within the AFNM, but undeveloped areas are available for camping with a 14-day limit. The BLM attributes the increase in visitation to an increasing residential population in proximity to the AFNM and increasing land use restrictions in other areas surrounding metropolitan Phoenix.

### **3.7.1.2 Table Mesa Recreation Management Zone**

The project area outside the AFNM offers similar recreational opportunities on federal and state land in a management environment focused on more intensive levels of recreation. Within the BH-RMP area, the 11,557-acre Table Mesa RMZ is part of the Black Canyon Management Unit and Black Canyon Special Recreation Management Area. Special Recreation Management Areas are areas that BLM has determined to require special management and/or have increased recreation use and demand. These areas support intensive recreation use and are managed to retain recreation opportunities while protecting resources and reducing user conflicts. Portions of the Black Canyon Hiking and Equestrian Trail RMZ coincide with the Table Mesa RMZ. Recreational management zones are located within special recreation management areas and have a particular recreation management focus or resource challenges.

The BLM reports that the Table Mesa RMZ (south of the AFNM and west of I-17) has the highest level of recreation visitation in the Phoenix District (BLM 2010c). The high visitation levels are attributed to the northward movement of the Phoenix metropolitan area in combination with a “dramatic” increase in OHV use, rock crawling, and target shooting. Target shooting is the most prevalent activity along the main roads in this area, receding with distance from the roads. There are increasing conflicts between nonmotorized trail users and motorized trail users in this area. As such, the BLM is managing the Table Mesa RMZ by “emphasis areas” to help minimize conflicts between the various user groups (BLM 2010c).

### **3.7.1.3 Black Canyon National Recreation Trail**

The 80-mile Black Canyon National Recreation Trail extends from State Route 69 (north) to State Route 74 (Carefree Highway) and consists of a network of hiking, mountain biking, and equestrian trails. It is located west of I-17 and traverses through the southern part of the project area in the vicinity of the Table Mesa RMZ. The Secretary of the Interior designated the Black Canyon Trail as a national recreation trail in June 2008 in conjunction with the 40th anniversary of the National Trails System (BLM 2010b). This historic trail is of national significance because it follows a route used since the times of pre-historic Native American travelers and traders. The Department of the Interior officially established the route as a livestock driveway in 1919, when it was used by woolgrowers from the Phoenix area to herd sheep to and from their summer ranges in the Bradshaw and Mingus Mountains. The trail is primarily used by residents of the Black Canyon I-17 corridor and metropolitan Phoenix

(BLM 2010b). The Black Canyon National Recreation Trail is considered by the BLM to be a special area designation and is also discussed in that context later in this document.

### **3.7.1.4 Special Use Recreation Permits**

Special use recreation permits on BLM land are discussed under Lands and Realty and listed in Appendix B.

### **3.7.1.5 Arizona State Trust Land**

A recreation permit is required to camp, hike, or travel on State Trust land that is designated as open for recreation. Recreational target shooting is not allowed, but hunting is permitted with a state license. A state-issued OHV decal is required for OHV use, and vehicles are required to stay on designated roads, trails, and routes for this purpose.

## **3.7.2 Environmental Consequences**

### **3.7.2.1 Direct and Indirect Impacts**

#### **No Action Alternative**

Under the No Action alternative, there would be no project-related impacts on recreation resources.

#### **Proposed Action**

Under the Proposed Action, recreationists who are present in areas proposed for project activities in the AFNM or the Table Mesa RMZ when APS is performing related work would experience a temporary interruption in the solitude and quiet that the remote landscape normally affords from the presence of work crews and project equipment, including helicopters and construction vehicles. For safety reasons, recreationists would not be allowed in the vicinity of project work areas while work is performed. Temporary closures of select portions of recreation areas and project access routes could occur during project activities. This would result in negligible to minor direct short-term impacts on recreation.

There are no plans for permanent closure of any existing open BLM routes in relation to the Proposed Action. The two TMPs that apply to the project area would be amended to include the reopened administrative access routes. Locked gates, signage, and other design features would be used to prevent unauthorized public use. Unauthorized use of reopened administrative access routes could potentially occur but would be actively discouraged and enforced by BLM. Therefore, no long-term impacts on recreation are anticipated from the Proposed Action.

### **3.7.2.2 Cumulative Impacts**

Past and present actions have contributed to the expansion of dispersed and developed recreation resources within the Agua Fria watershed. Construction of I-17 substantially improved recreation

access to the Agua Fria watershed for the Phoenix metropolitan area, particularly in the vicinity of the Table Mesa RMZ. The presidential proclamation creating the AFNM and the AFNM-RMP planning area (BLM 2010a) provided a higher level of recreation resource management within the AFNM. The BH-RMP also provided for improved management of recreation resources within the planning area (including the BCMU), especially in conjunction with the Black Canyon National Recreation Trail. Future acquisition of private inholdings by BLM will facilitate improved management of recreation resources.

Under the No Action and Proposed Action alternatives, there would be no contribution to cumulative impacts on recreation.

### **3.7.3 Mitigation Measures**

Design features to reduce or avoid impacts on recreation resources resulting from project activities have been incorporated into the Proposed Action and are described in Chapter 2. No residual impacts on recreation resources are anticipated. Therefore, no additional mitigation measures are proposed.

## **3.8 Special Area Designations**

### **3.8.1 Affected Environment**

Special area designations apply to areas on BLM public land containing special values that warrant or require special management or protection. There are two special area designations in the project area. Three segments of the Agua Fria River within the AFNM have been determined to be suitable for designation as a national wild and scenic river (NWSR). Additionally, the Black Canyon National Recreation Trail is considered to be a special area designation and is located in the BCMU.

#### **3.8.1.1 National Wild and Scenic Rivers**

The NWSR Act was passed in 1968 to protect selected rivers of the Nation which, with their immediate environments, possess “outstandingly remarkable” scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values in free-flowing condition for the benefit and enjoyment of present and future generations (16 USC 1271 et seq.). To accomplish this goal, Congress established an NWSR System. To qualify for inclusion in the NWSR System, a river or river segment must be in a free-flowing condition and must be deemed to have one or more “outstandingly remarkable” values (as described above).

Portions of the Agua Fria River were identified in the 1994 *Arizona Statewide Wild and Scenic Rivers Legislative EIS* (cited in BLM 2007) as being suitable for designation. In the 1994 Final Legislative Environmental Impact Statement for Wild and Scenic Rivers, the Agua Fria River was found to have outstandingly remarkable values for its scenic characteristics, fish and wildlife habitat, and cultural resources (BLM 2007).

Within the AFNM, three segments of the Agua Fria River, totaling 22.4 miles, have been determined to be suitable for NWSR designation as wild, scenic, or recreational depending on the segment characteristics:

- A 7.7-mile segment from Sycamore Creek to the juncture of Bloody Basin Road at Horseshoe Ranch (determined to be suitable as a designated scenic river)
- A 10.3-mile segment from Horseshoe Ranch to the Arizona Department of Transportation (ADOT) pump house (determined to be suitable as designated wild river)
- A 4.4-mile segment between the ADOT pump house and Larry Canyon (determined to be suitable as a designated scenic river)

Congress has yet to formalize NWSR designation for any of these three river segments. While awaiting congressional determination of designation, the BLM is managing these river segments under the 1968 NWSR Act and according to guidance in BLM's Manual 8351, Section 53, subject to valid existing rights, until the segments are determined not suitable for designation or Congress makes a decision regarding the NWSR designation. The protective management actions apply to areas within 0.25 mile on either side of the Agua Fria River.

There are no other designated NWSR river segments or river segments determined to be suitable for NWSR designation outside the AFNM within the project area.

The BLM has also determined eight tributaries to the Agua Fria River within the AFNM to be eligible for study as Wild and Scenic Rivers. From north to south, these include Ash Creek/Little Ash Creek, Sycamore Creek, Indian Creek, Silver Creek, Bishop Creek, Tank Creek, Lousy Creek, and Larry Creek (BLM 2010a). Until they have been studied and determined to be suitable for NWSR designation, these areas are not be considered to have a special area designation.

### **3.8.1.2 Black Canyon National Recreation Trail**

The 80-mile Black Canyon National Recreation Trail is located west of I-17 and traverses through the southern part of the project area in the vicinity of the Table Mesa RMZ. The trail extends from State Route 69 (north) to State Route 74 (Carefree Highway). The Secretary of the Interior designated the Black Canyon Trail as a national recreation trail in June 2008 in conjunction with the 40th anniversary of the National Trails System (BLM 2010b). The trail is located in the Bradshaw Mountain foothills and features hiking, mountain biking, and horse riding. This historic trail is of national significance because it follows a route used since the times of pre-historic Native American travelers and traders. The Department of the Interior officially established the route as a livestock driveway in 1919, when it was used by woolgrowers from the Phoenix area to herd sheep to and from their summer ranges in the Bradshaw and Mingus Mountains. The trail is primarily used by residents of the Black Canyon I-17 corridor and metropolitan Phoenix (BLM 2010b).

## **3.8.2 Environmental Consequences**

### **3.8.2.1 Direct and Indirect Impacts**

#### **No Action Alternative**

Under the No Action alternative, there would be no project-related impacts on special area designations.

#### **Proposed Action**

Under the Proposed Action, project activities would have no impact on any of the three segments of the Agua Fria River determined to be suitable for NWSR designation or on any of the eight tributaries of the Agua Fria River eligible for future NWSR suitability study.

The Black Canyon National Recreation Trail intersects the Navajo-Westwing transmission line ROW near Tower 236/2 in the Table Mesa RMZ. Public access to the Table Mesa trailhead, about 0.75 mile west of the ROW in this area, is via Table Mesa Road. This is also a proposed existing access route for the fiber-optic installation. The trail crosses proposed existing access in two other places south of this area. One crossing is over an existing BLM open route, and the second crossing is over 99th Avenue. During the fiber-optic installation, a portion of the Black Canyon Trail in the vicinity of Tower 236/2 could be temporarily closed to public access. Therefore, the project would result in minor, direct, short-term impacts on visitors to the Black Canyon National Recreation Trail in affected project work areas within the Table Mesa RMZ but would have no impact on the trail's special area designation.

### **3.8.2.2 Cumulative Impacts**

Past actions within the AFNM-RMP and BH-RMP planning areas have resulted in the establishment of several special area designations, including five designated wilderness areas, four areas of critical environmental concern, the Black Canyon National Recreation Trail, and the Harquahala Mountain Summit Back Country Byway within the BH-RMP planning area. There are no planned actions for additional special designations in the reasonably foreseeable future.

No contribution to cumulative impacts on special designations would occur from the No Action or Proposed Action alternative.

### **3.8.3 Mitigation Measures**

Design features to reduce or avoid impacts on special area designations resulting from project activities have been incorporated into the Proposed Action and are described in Chapter 2. No residual impacts to special area designations are anticipated. Therefore, no mitigation measures are proposed.

## **3.9 Transportation and Travel Management**

### **3.9.1 Affected Environment**

#### **3.9.1.1 Agua Fria National Monument**

The 2000 presidential proclamation establishing the AFNM mandated that there would be no off-road driving, which is interpreted as a ban on cross-country (off-route) travel. The primary modes of recreation-based travel within the AFNM include OHV, pedestrian, and equestrian traffic (BLM 2010a). All roads in the AFNM are dirt roads. Most are very rough and suitable only for vehicles with high clearance and, in many cases, preferably outfitted with four-wheel drive. Seasonal storms and precipitation can make many roads not passable due to mud or flooding. Road maintenance is generally conducted to address only significant safety and resource protection concerns.

An approved TMP has been prepared by the BLM for the AFNM and is included as Appendix C to the AFNM-RMP (BLM 2010a). Approximately 171 miles of routes within the AFNM have been designated as roads, primitive roads, or trails that are open, closed, or limited in their use. *Roads* are defined as linear routes managed for use by low-clearance vehicles having four or more wheels and are maintained for regular and continuous use. Primitive Roads are linear routes managed for use by four-wheel drive or high-clearance vehicles. They do not normally meet BLM design standards and are existing unimproved routes. They typically accommodate full-size four-wheel drive vehicles. *Trails* are linear routes managed for human-powered, stock, or OHV forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles. They include locally known nonmotorized trails and very rough roads intended to be kept in that condition.

Of the designated routes within the AFNM, Bloody Basin Road (No. 9269) and Badger Springs Road (No. 9001) are the most widely used (BLM 2010a). Forty-four percent of the routes have been permanently closed and rehabilitated or limited to administrative use only. Fifty-six percent of the routes have been retained and are designated as roads, primitive roads, or trails that are open for public use. Fifteen miles are designated as roads which are open to all modes of travel. An estimated 154 miles of the 171 miles are primitive roads, of which 78 miles are open to all travel modes, 24 miles are limited to administrative use only, and 51 miles are closed and planned for rehabilitation. Two miles are designated as trails, of which one mile is limited to nonmotorized use and one mile is closed and will be rehabilitated. Within the AFNM all motor vehicles must remain on routes designated as roads and primitive roads. Bicycles are restricted to open nonmotorized trails and to roads or primitive roads open to motor vehicles. Hiking and equestrian travel is allowed on any route designated as a road, primitive road, or trail, and cross-country, provided doing so does not damage the AFNM's resources.

#### **3.9.1.2 Table Mesa Recreation Management Zone**

The BLM approved a TMP for the Table Mesa area in 2010 to better manage uses that have a high potential to damage natural resources, provide coordinated loops to reduce visitor conflict by separating motorized and nonmotorized uses, and building new trails in the core of the area adjacent to high-use

camp areas (BLM 2010c). The BLM route network within the Table Mesa RMZ includes 73 miles of existing roads, primitive roads, and trails (BLM 2010c). Public roads include Table Mesa Road and an unnamed road under I-17 at Moore's Gulch. Table Mesa Road is the entrance to the Table Mesa RMZ and crosses 1.5 miles of Arizona State Trust land before reaching the BLM public land. Local residents in the project area access Table Mesa from their homes in Black Canyon City and New River (BLM 2010c). The two routes from Black Canyon City include the Agua Fria River between Black Canyon City and the Gillette Townsite and a mining road south of Rock Springs.

### **3.9.1.3 Arizona State Trust Land**

The project area also includes a number of existing roads on Arizona State Trust land that would be used to access the Navajo-Westwing transmission line.

## **3.9.2 Environmental Consequences**

### **3.9.2.1 Direct and Indirect Impacts**

#### **No Action Alternative**

Under the No Action alternative, there would be no project-related impacts on transportation and travel management.

#### **Proposed Action**

Under the Proposed Action, an estimated total of 38.9 acres is proposed for project activities, including 25.2 acres for cable pull points, 4.7 acres of reopened routes on BLM land, 0.2 acres of new roads on BLM-administered land outside the AFNM (0.1 acre) and State Trust (0.1 acre), 3.8 acres of cleanup of existing routes, and 5.0 acres for helicopter fly points (Table 2). All route cleanup and project activities would be designed for no to minimal land disturbance. The BLM routes proposed for reopening are summarized in Appendix C.

The administrative routes would generally follow reopened routes originally established to construct the powerline, be designed to BLM primitive road standards, receive a low level (Level 1) of maintenance, and be closed to the public to minimize land disturbance. Additionally, 14 fly points have been identified on BLM land and these are generally proximate to existing BLM routes. The project activities could result in temporary closures of existing BLM routes open for public use. Road closures would take place during the work week, however, when visitor use is minimal. Therefore, negligible direct short-term impacts on BLM transportation and travel management could result due to potential for route closures.

Upon completion, the existing TMPs for the AFNM (BLM 2010a:Appendix C) and for the Table Mesa RMZ (BLM 2010c) would be amended to include the reopened BLM administrative routes. Because the administrative routes would be closed to the public, there would be no long-term change to BLM

transportation and travel management. Therefore, there would be no long-term impacts on these resources.

The proposed project would also require use of select roads on State Trust land to access and perform the fiber-optic installation. None of these existing State Trust roads are proposed for cleanup. One new section of road, estimated to be 342 feet (0.1 acre), is proposed within the existing powerline ROW near Tower 231/2. Because this new road is within the transmission line ROW, its construction and maintenance are authorized under APS's existing 50-year ROW easement agreement (No. 14-26216) and no additional authorization is needed. Additionally, 11 potential helicopter fly points have been identified for the project and three of these fly points have also been identified for potential refueling. Project activities could result in temporary closures of existing State Trust roads open for public use. Road closures would take place during the work week, however, when visitor use is minimal. Therefore, negligible direct short-term impacts on State Trust roads could result. No long-term impacts would occur.

### **3.9.2.2 Cumulative Impacts**

Past and present actions have contributed to the development of a motorized and nonmotorized transportation network within the Agua Fria watershed. Unstabilized dirt roads have been created over time due to past mining, livestock and recreation activity in less developed areas. The construction of I-17 created a major north-south transportation link for the Southwest between southern and northern Arizona. The creation of the AFNM and development of a TMP for the AFNM (BLM 2010a:Appendix C) will serve to limit future unauthorized road development in the AFNM. The Table Mesa TMP (BLM 2010c) will result in a more systematic approach to travel management in the Table Mesa portion of the BH-RMP.

Under the No Action and Proposed Action alternatives, there would be no contribution to cumulative impacts on transportation and travel management.

### **3.9.3 Mitigation Measures**

Design features to reduce or avoid impacts on transportation and travel management resulting from project activities have been incorporated into the Proposed Action and are described in Chapter 2. No residual impacts to transportation and travel management are anticipated. Therefore, no mitigation measures are proposed.

## **3.10 Visual Resources**

### **Introduction, Methodology, and Compliance**

FLPMA identifies scenic resources as one of the resources for which public land should be managed. In order to satisfy its responsibilities with respect to scenic resources, the BLM's Visual Resource Management (VRM) policy establishes a visual assessment methodology to inventory and manage scenic values on land under its jurisdiction. The VRM system is described in Manual 8400, *Visual*

*Resource Management* (BLM 1984), Handbook H-8410-1, *Visual Resource Inventory* (BLM 1986a), and Manual 8431, *Visual Resource Contrast Rating*, (BLM 1986). The VRM system begins with a visual resource inventory (VRI), which assigns VRI classes to BLM land based on scenic quality, visual sensitivity to potential changes in the landscape, and distance zone offsets from key viewing platforms. Scenic quality as defined by the BLM is the measure of the visual appeal of a tract of land. In the VRI process, public land is given an A, B, or C scenic quality rating, based on the evaluation of the following seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. Class A scenery typically has a higher degree of landscape relief, and diversity of water and vegetation, which harmoniously combine and result in a high level of aesthetic appeal. Class B scenery has less variety in the elements that comprise the landscape, but still has some diversity and visual interest. Class C scenery typically does not have much diversity in terms of landscape features, and rates the lowest from an aesthetic perspective. Sensitivity levels are a measure of public concern for the maintenance of scenic quality associated with a given tract of BLM land. Public land is assigned high, medium, or low sensitivity by analyzing the various indicators of public concern, including type of user, amount of use, public interest, adjacent land uses, and special areas, among other factors. According to the BLM guidance, landscapes are subdivided into three distance zones based on relative visibility from key observation points/platforms. The three distance zones are foreground-middleground (0 to 5 miles), background (5 to 15 miles), and seldom seen (greater than 15 miles). The three factors—scenic quality, sensitivity levels, and distance zones—are combined into four VRI Classes (I to IV) to represent the relative visual value of an area with VRI Class I being the most valued and Class IV having the lesser visual value. VRI classes provide a baseline for existing conditions.

The VRI classes serve as baseline data from which to make management decisions and assign VRM classes. Four VRM classes are established for BLM-administered land through the resource management plan (RMP) process. VRM Class I designations are assigned to lands such as wilderness areas, wilderness study areas, areas of critical environmental concern and other congressionally and administratively designated areas that include specific visual management objectives. VRM classes II, III, and IV are assigned to remaining BLM land. Table 6 states the management goals of each of the VRM classifications.

**Table 6. Visual Resource Management Classifications**

<b>Class</b>	<b>Definition</b>
Class I	To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.
Class II	To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.
Class III	To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.
Class IV	To provide for management activities that requires major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

*Table Source:* BLM Manual 8400 (1984).

To inventory and characterize the affected environment for visual resources, BLM planning-level VRIs and VRM classifications were identified for land administered by the BLM. The VRI data was provided by the BLM Hassayampa Field Office and the VRM classifications from the BH-RMP (BLM 2010b) and AFNM-RMP (BLM 2010a). ASLD currently has no visual resource management program in place.

Existing conditions (i.e., cultural modifications) within the project area range from natural to partially modified, based on the occurrences of transmission lines, substations, travel routes, and other structural features that can modify the quality of natural settings. Existing conditions were evaluated by means of aerial photography to determine the location where modifications have affected natural settings.

### **3.10.1 Affected Environment**

The AFNM landscape is characterized by rolling hills, relatively flat, well defined mesas, and steep walled canyons cut by ephemeral washes and most notably, the Agua Fria River. The vegetation consists primarily of grasses and medium to coarse textured low shrubs and prickly pear cactus with the exception of the riparian vegetation associated with the washes. In addition to the Agua Fria River, recognized natural features include Perry and Black mesas, New River, Baby Canyon, Bishop Creek, and Lousy Canyon. Notable built features or cultural modifications within the AFNM include the Navajo-Westwing transmission lines and towers, trails, and dirt roads. Outside the AFNM the landscape character within the project area is similar, but less dramatic with rolling hills and smaller mesas dissected by unnamed washes. Characteristic of the landscape in the southern portion of the project area is the Sonoran Desert vegetation with its iconic saguaro cactus. Built features immediately adjacent to the Navajo-Westwing transmission line are the communities of Cordes Junction, Black Canyon, and New River and I-17.

### **3.10.2 Environmental Consequences**

#### **3.10.2.1 Direct and Indirect Impacts**

##### **No Action Alternative**

Under the No Action alternative, there would be no project-related impacts on visual resources.

##### **Proposed Action**

In general, modifications that would alter the landscape character of natural lands is the primary factor considered for identifying and characterizing impacts related to visual resources. Project activities associated with the Proposed Action would be apparent to the casual observer and attract attention away from the natural landscape because of the presence of helicopters, project equipment used to install the fiber-optic cable, and the disturbance to existing vegetation created by the reopened administrative routes and route clean-up. All reopened administrative routes within and outside the AFNM would follow BLM primitive road standards and maintained at a minimal level (Level 1) of

maintenance to minimize land disturbance. Therefore, there would be moderate direct short-term impacts associated with the Proposed Action.

Once the fiber-optic cable is placed on the existing towers, potential impacts to visual resources would be negligible because the magnitude of change to the landscape character would not be apparent or attract attention away from the natural landscape. Ongoing maintenance would be scheduled every 5 years. Because there are existing routes and linear features present within the landscape, the limited amount of reopened administrative routes would be consistent with the line and form of the existing landscape character and would result in a low to very low contrast within the setting. The Proposed Action’s maintenance activities associated with the reopened administrative routes would be subordinate in the landscape; therefore there would be negligible, direct, long-term impacts to visual resources.

**Compliance with BLM VRM Objectives**

The VRM class compliance was assessed by studying the level of change in the landscape (baseline contrast) resulting from the Proposed Action. A project-specific contrast rating form (BLM VRM Manual, Form 8400-4) was not completed for the Proposed Action. Class II VRM objectives allow for weak project contrast, or a “low level of change” in the landscape. In a Class III VRM objective area, “change to the characteristic landscape should be moderate.” Moderate levels of contrast associated with management activities of the Project would therefore be compliant.

Table 7 shows the current VRI and VRM classifications for BLM-managed land and the compliance of the Proposed Action with the VRM management objectives.

**Table 7. VRI and VRM Classifications and Proposed Action Compliance**

<b>Tower Identified for Pull-Point Sets and Associated Access Routes</b>	<b>Scenic Quality/Sensitivity Level/VRI Class</b>	<b>VRM Class</b>	<b>Compliance with VRM Class</b>
209/1	B/H/II	II	Yes
213/1	B/H/II	III	Yes
216/3	B/H/II	II	Yes
218/3	B/H/II	II	Yes
220/3	B/H/II	II	Yes
222/2	B/H/II	II	Yes
224/3	B/H/II	III	Yes
228/2	NA	NA	NA
231/2	NA	NA	NA
234/4	B/H/II	III	Yes
238/4	B/H/II	III	Yes

<b>Tower Identified for Pull-Point Sets and Associated Access Routes</b>	<b>Scenic Quality/Sensitivity Level/VRI Class</b>	<b>VRM Class</b>	<b>Compliance with VRM Class</b>
242/4	NA	NA	NA
245/2	NA	NA	NA
247/3	NA	NA	NA
248/3	NA	NA	NA

### **3.10.2.2 Cumulative Impacts**

Past and present land actions with the AFNM and BH-RMP planning area have generally had adverse cumulative impacts on visual resources. Cumulative impacts have resulted from land disturbance activities. The presidential proclamation creating the AFNM and the AFNM-RMP (BLM 2010a) provide a higher level of resource protection for visual resources within the AFNM boundary. The BH-RMP (BLM 2010b) also provides for improved management of visual resources within the planning area. Future acquisition of private inholdings by BLM has the potential to facilitate more coordination in visual resource management activities that benefit visual resources.

Under the No Action and Proposed Action alternatives, there would be no project-related contribution to cumulative impacts on visual resources.

### **3.10.3 Mitigation Measures**

Design features to reduce or avoid impacts on visual resources resulting from project activities have been incorporated into the Proposed Action and are described in Chapter 2. No residual impacts to visual resources are anticipated. Therefore, no mitigation measures are proposed.

## **3.11 Water Resources**

### **3.11.1 Affected Environment**

The project area falls within the boundaries of the Middle Gila watershed, and more specifically, the Agua Fria river basin (BLM 2007). The Agua Fria River originates northeast of Prescott, Arizona and drains into the Gila River south of Avondale, Arizona. The river drains a 2,700-square-mile area in Yavapai and Maricopa Counties (Arizona Department of Water Resources 2011). Perennial stream segments include the Agua Fria River, Ash Creek, Sycamore Creek, Indian Creek, Silver Creek, a small reach of Humbug Creek, Yellow Jacket Creek and Grapevine Creek (Arizona Department of Water Resources 2010). Most perennial streams are in the northern portion of the basin. The Agua Fria River feeds into Lake Pleasant Reservoir, a municipal water source, southwest of the project area. About 25 percent of the Agua Fria River flows through the AFNM, and approximately 6.6 miles of the Agua Fria River traverses the northern half of the Table Mesa area.

Within the Table Mesa RMZ, there are two major river crossings on the Agua Fria River, near Gillette and Little Pan Road (BLM 2010c). In addition to the major river crossings, there are several “sand run” areas where vehicles access the river, along with numerous other access points in which vehicles drive through the river for access or recreation and traverse the river to connect roads.

### **3.11.2 Environmental Consequences**

#### **3.11.2.1 Direct and Indirect Impacts**

##### **No Action Alternative**

Under the No Action alternative, there would be no project-related impacts on water resources.

##### **Proposed Action**

Under the Proposed Action, an estimated total of 38.9 acres is proposed for project activities, including 25.2 acres for cable pull points, 4.9 acres of reopened routes and new roads, 3.8 acres of cleanup of existing routes, and 5.0 acres for helicopter fly points (Table 2). All activities would be designed for no to minimal land disturbance. The reopened administrative routes would generally follow routes established to construct the powerline, be designed to BLM primitive road standards, receive a low level (Level 1) of maintenance, and be closed to the public to minimize land disturbance and resulting impacts to water resources.

The proposed administrative access routes would impact two unnamed washes (tributaries to Lousy Canyon and Little Squaw Creek) in the project area that are potential waters of the United States under jurisdiction of the U.S. Army Corps of Engineers (Corps). The remaining named streams (Agua Fria River, Silver Creek, Big Bug Creek, Tank Creek, Hackberry Wash, Copper Creek, Bishop Creek, Badger Spring Wash, Squaw Creek, Little Squaw Creek, and Moore Gulch) and unnamed streams within the project area identified during the preliminary assessment are not anticipated to be impacted by the Proposed Action. No riparian areas, wetlands, or impaired waters would be impacted by the Proposed Action.

The U.S. Army Corps of Engineers regulates activities that discharge dredged or fill materials into jurisdictional waters and issues permits for these discharges under Section 404 of the CWA. The project activities that would impact the two potential jurisdictional waters would be authorized by the Corps under the Section 404 Nationwide Permit No. 12 (Utility Line Activities) (Appendix D). Notification to the Corps would not be required because the discharges to potentially jurisdictional waters would be less than 0.1 acre and less than 500 linear feet, and no other criteria for notification under Nationwide Permit No. 12 would be met. The Proposed Action would comply with all applicable conditions of Nationwide Permit No. 12.

The ADEQ provides Section 401 Water Quality Certification under the Clean Water Act for discharges within waters of the United States for all nontribal land in Arizona. Section 401 Water Quality

Certification for the Proposed Action would be conditionally certified by ADEQ, so individual certification would not be required.

A portion of a reopened administrative access route under the Proposed Action would be located within a 100-year floodplain area along an unnamed tributary to Little Squaw Creek. More than 1 acre of land would be disturbed under the Proposed Action; therefore, coverage under the Arizona Pollutant Discharge Elimination System Construction General Permit would be required. The permit requires the development of a SWPPP. The SWPPP would be completed before filing a Notice of Intent with ADEQ, which is required before beginning construction activities. Upon completion of construction activities, a Notice of Termination would be submitted to ADEQ. Additionally, since portions of the proposed project area are located within the Yavapai County and Maricopa County Small Municipal Separate Storm Sewer Systems (Small MS4s), the Notice of Intent and the Notice of Termination would also be submitted to Yavapai and Maricopa Counties.

Considering all of the above, there would be negligible direct short-term impacts on water resources resulting from project activities. No long-term impacts on water resources are anticipated.

### **3.11.2.2 Cumulative Impacts**

Under the No Action or Proposed Action alternative, there would be no project-related contribution to cumulative impacts on water resources.

### **3.11.3 Mitigation Measures**

Design features to reduce or avoid impacts on water resources resulting from project activities have been incorporated into the Proposed Action and are described in Chapter 2. No residual impacts to water resources are anticipated. Therefore, no mitigation measures are proposed.

## **3.12 Wilderness Characteristics**

### **3.12.1 Affected Environment**

Wilderness characteristics are defined in Section 2(c) of the Wilderness Act of 1964 (16 USC 1131). In conformance with Secretarial Order 3310, the BLM considered the presence of wilderness characteristics, including naturalness, solitude, and opportunities for primitive and unconfined recreation, as part of the AFNM-RMP (BLM 2010a) and BH-RMP (BLM 2010b) planning process. A total of 20,900 acres of the 70,900-acre AFNM has been evaluated by BLM and determined to have wilderness characteristics. LWCs cover four geographic areas of the AFNM:

- Agua Fria River Canyon, extending south of Bloody Basin Road to the APS powerline and pumping station
- Baby Canyon, extending from Bloody Basin Road to the Agua Fria River confluence
- Silver Creek/Long Gulch drainage and uplands, including Indian Creek
- Perry Mesa, centered on Larry and Lousy Canyons

No part of the project area in the BCMU outside the AFNM includes BLM land that has been determined to have wilderness characteristics (BLM 2010b); however, there are LWCs just north of the Table Mesa RMZ.

### **3.12.2 Environmental Consequences**

#### **3.12.2.1 Direct and Indirect Impacts**

##### **No Action Alternative**

Under the No Action alternative, there would be no project-related impacts on LWCs.

##### **Proposed Action**

Under the Proposed Action, project activities including the cleanup of existing routes, reopening of routes for administrative use, helicopter use of fly points, and installation of the fiber-optic cable with helicopters and other equipment have the potential for short-term disruption of the solitude, naturalness, and primitive and unconfined experience of visitors to LWCs. During project activities, visitor opportunities for primitive and unconfined recreation might also be disrupted if LWC areas are temporarily closed to the public for safety or other reasons. Over the life of the project, the periodic use of administrative access routes by motorized vehicles could temporarily disrupt the solitude, naturalness, and primitive and unconfined experience of visitors to LWCs. Therefore, minor to moderate direct short-term impacts could result if visitors are present when project activities are occurring.

The reopened administrative routes would generally align with routes originally established to construct the powerline, be designed to BLM primitive road standards, receive a low level (Level 1) of maintenance, and be closed to the public to minimize disruption of the naturalness quality of LWCs. Therefore, negligible direct, long-term impacts are anticipated. No indirect impacts are anticipated.

#### **3.12.2.2 Cumulative Impacts**

Past and present land actions with the AFNM have had an adverse impact on the wilderness quality of the landscape due to land disturbance. The presidential proclamation creating the AFNM and the AFNM-RMP (BLM 2010a) provide a higher level of resource protection for LWCs within the AFNM boundary. The BH-RMP (BLM 2010b) also provides for increased management of LWCs within the planning area, including the BCMU. The future acquisition of private inholdings by BLM has the potential to facilitate more coordination in management activities that benefit LWCs.

Under the No Action alternative, there would be no project-related cumulative impacts on LWCs.

Under the Proposed Action, contribution to cumulative impacts on LWCs from the reopening of administrative routes, fiber-optic installation, and periodic project-related maintenance activities are anticipated to be negligible.

### 3.12.3 Mitigation Measures

Design features to reduce or avoid impacts on LWCs resulting from project activities have been incorporated into the Proposed Action and are described in Chapter 2. No residual impacts to LWCs are anticipated. Therefore, no additional mitigation measures are proposed.

### 3.13 Summary of Environmental Consequences

A summary of the environmental impacts on the affected resources analyzed in this EA is presented in Table 8.

**Table 8. Summary of Potential Effects from the No Action and Proposed Action Alternatives**

Resource	No Action	Proposed Action
Air Resources	<ul style="list-style-type: none"> <li>No direct impacts</li> <li>Negligible indirect short-term impacts from potential generation of windblown dust on existing unpaved access roads</li> </ul>	<ul style="list-style-type: none"> <li>Negligible direct short-term impacts from fugitive dust and equipment emissions from project activities</li> <li>Negligible indirect short-term impacts from potential generation of windblown dust on unpaved access routes</li> <li>Negligible cumulative impacts</li> </ul>
Biological Resources	<ul style="list-style-type: none"> <li>No impacts</li> </ul>	<ul style="list-style-type: none"> <li>No to negligible impacts on vegetation</li> <li>No direct impacts on Sonoran desert tortoise</li> <li>Negligible indirect impacts on Sonoran desert tortoise</li> <li>Negligible direct and indirect impacts on Murphey agave</li> <li>Negligible to minor direct short-term impacts to pronghorn if they are in the project area during project activities</li> <li>No indirect impacts on pronghorn</li> <li>No impacts on other special-status species that were evaluated in the BE, including migratory birds</li> <li>No cumulative impacts</li> </ul>
Cultural Resources	<ul style="list-style-type: none"> <li>No impacts</li> </ul>	<ul style="list-style-type: none"> <li>No impacts on cultural resources from project activities; all proposed work sites and access routes have been surveyed and designed for avoidance</li> <li>No cumulative impacts</li> </ul>
Lands and Realty	<ul style="list-style-type: none"> <li>No impacts</li> </ul>	<ul style="list-style-type: none"> <li>No impacts on lands and realty</li> <li>Minor beneficial direct long-term impacts from the establishment of dedicated administrative access routes to the transmission line ROW that would be used for intermittent maintenance activities and emergency access.</li> <li>No cumulative impacts</li> </ul>
Noise	<ul style="list-style-type: none"> <li>No impacts</li> </ul>	<ul style="list-style-type: none"> <li>Minor to moderate direct short-term noise during project activities, primarily from use of motorized equipment and helicopters</li> <li>No long-term impacts</li> <li>No cumulative impacts</li> </ul>

<b>Resource</b>	<b>No Action</b>	<b>Proposed Action</b>
Recreation	<ul style="list-style-type: none"> <li>• No impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Negligible to minor direct short-term impact on recreation from project activities and periods of intermittent maintenance due to presence of work crews and potential for temporary closure of work areas</li> <li>• No long-term impacts</li> <li>• No cumulative impacts</li> </ul>
Special Area Designations	<ul style="list-style-type: none"> <li>• No impacts</li> </ul>	<ul style="list-style-type: none"> <li>• No impacts on streams eligible for NWSR designation or suitable for study</li> <li>• Minor direct short-term impacts on visitors using the Black Canyon National Recreation Trail in work areas within the Table Mesa RMZ due to temporary work closures</li> <li>• No long-term impacts on any special area designations</li> <li>• No cumulative impacts</li> </ul>
Transportation and Travel Management	<ul style="list-style-type: none"> <li>• No impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Negligible direct short-term impacts on BLM and State Trust roads due to potential for temporary route closures</li> <li>• No long-term impacts</li> <li>• No cumulative impacts</li> <li>• Applicable BLM TMPs would be amended to incorporate reopened administrative routes</li> </ul>
Visual Resources	<ul style="list-style-type: none"> <li>• No impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate direct short-term impacts from project activities</li> <li>• Negligible direct long-term impacts</li> <li>• No cumulative impacts</li> </ul>
Water Resources	<ul style="list-style-type: none"> <li>• No impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Negligible direct short-term impacts on water resources</li> <li>• No long-term impacts</li> <li>• No cumulative impacts</li> </ul>
Wilderness Characteristics	<ul style="list-style-type: none"> <li>• No impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Minor to moderate direct short-term impacts on visitor experience of solitude, naturalness, and primitive and unconfined recreation in LWCs during project construction and periods of intermittent maintenance</li> <li>• Negligible direct long-term impacts on naturalness quality of LWCs from reopened administrative routes</li> <li>• No indirect impacts</li> <li>• No cumulative impacts</li> </ul>

## **4.0 TRIBES, INDIVIDUALS, ORGANIZATIONS, AND AGENCIES CONSULTED**

The BLM gathered or sought public and agency comments on the proposed Dugas to Morgan Fiber Optic Project during the scoping process, as discussed in Section 1.3 of this EA. The public and agencies are also provided with a 30-day comment period following publication of the EA. Additional tribal and biological resource consultation activities are described below.

### **4.1 Tribal Consultation**

The BLM has a unique government-to-government relationship with Native American tribes; this relationship is founded on provisions of the U.S. Constitution, federal treaties, federal statutes, and executive orders that require the agency to consult with interested tribes as part of federal undertakings. The BLM's government-to-government consultation with tribes is performed in compliance with Secretarial Order No. 3317 which outlines the Department of the Interior's policy on tribal consultation. The BLM has initiated consultation with the Navajo Nation, the Hopi Tribe, and the Yavapai-Prescott Indian Tribe in accordance with departmental policy and following the directives of the Presidential Memorandum of November 5, 2009; Executive Order 13175; NEPA; and the National Historic Preservation Act.

### **4.2 Biological Resource Consultation**

AGFD, USFWS, and BLM were consulted for species concerns during the development of the BE prepared for this NEPA environmental review. The BLM was concerned about potential impacts to the Sonoran desert tortoise and requested that APS conduct a survey to identify tortoise habitat and burrows in designated Category II desert tortoise habitat on BLM land in the project area. A list of special-status species was obtained from the AGFD Heritage Data Management System (HDMS) program supervisor.

- Sabra Tonn, HDMS Program Supervisor, AGFD
- Kelly Wolff-Krauter, Habitat Program Manager, Region VI, AGFD
- Paul Sitzmann, Wildlife Biologist, AFNM, BLM

## 5.0 PREPARERS

This EA was prepared by Logan Simpson Design Inc., an environmental planning and landscape architecture firm headquartered in Tempe, Arizona, under contract to APS, headquartered in Phoenix, Arizona, with guidance from the BLM, Phoenix District Office, Hassayampa Field Office staff. Information and reviews were also provided by BLM, AGFD, and APS staff. Table 9 lists the staff involved in the preparation of the EA and related documents, including the BE (LSD 2012a) and the cultural resources report (LSD 2012b).

**Table 9. List of Preparers**

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**Appendix A**  
**List of Special-Status Species**  
**Excluded from Further Evaluation**

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## Special-Status Species Excluded from Evaluation and Justification for Their Exclusion

Species	Status	Habitat Requirements	Exclusion Justification
<b>Plants</b>			
Arizona cliffrose ( <i>Purshia subintegra</i> )	ESA LE	White soils of tertiary limestone lakebed deposits below 4,000 feet.	No suitable habitat present, not known to occur in the project vicinity.
Arizona Sonoran Rosewood ( <i>Vauquelinia californica</i> ssp. <i>sonorensis</i> )	BLM S	Along shady canyon bottoms and on moderate to steep slopes in desertscrub and desert grassland habitats between 2,328 and 3,720 feet. Known range includes the Sand Tank Mountains of southern Maricopa County south into southern Arizona.	Outside species range.
California Flannelbush ( <i>Fremontodendron californica</i> )	BLM S	Well-drained rocky hillsides and ridges, usually on dry, north-facing slopes in canyons, in chaparral and oak/pine woodland between 3,500 and 6,500 feet.	No suitable habitat present; generally occurs at elevations greater than those of the project area.
Giant Sedge ( <i>Carex spissa</i> var. <i>ultra</i> )	BLM S	Moist soil near perennially wet springs and streams; in undulating rocky-gravelly terrain, often in southeast-facing or shaded areas between 2,040 and 6,000 feet.	No impacts anticipated; project activities will not affect riparian areas.
Tumamoc Globeberry ( <i>Tumamoca macdougalii</i> )	BLM S	Most commonly found in the shade of a variety of nurse plants along gullies and sandy washes of hills and valleys in Sonoran desertscrub and Sinaloan thornscrub communities below 3,000 feet. Known range includes southern Maricopa County into Pinal and Pima counties.	Outside species range.
<b>Fish</b>			
Colorado pikeminnow ( <i>Ptychocheilus lucius</i> )	ESA LE	Warm, swift, turbid mainstream rivers at less than 4,000 feet. Prefers eddies and pools.	No suitable habitat present; not found in the Agua Fria drainage.
Desert pupfish ( <i>Cyprinodon macularius</i> )	ESA LE	Shallow waters of springs, small streams, and marshes below 5,000 feet. Tolerates saline and warm water. Currently known only from reintroduced populations.	Could potentially be found in the central portion of the project area; no impacts anticipated, project activities will not affect the river or its tributaries.
Desert Sucker ( <i>Catostomus clarki</i> )	BLM S	Rapids and flowing pools of streams and rivers primarily over bottoms of gravel-rubble with sandy silt in the interstices between 480 and 8,840 feet. Adults live in pools, moving at night to swift riffles and runs to feed. Young inhabit riffles throughout the day, feeding on midge larvae.	Could potentially be found in the northern portion of the project area; no impacts anticipated, project activities will not affect the river or its tributaries.
Gila chub ( <i>Gila intermedia</i> )	ESA LE	Pools, springs, cienegas and streams between 2,000 and 5,500 feet.	Could potentially be found in the central and northern portions of the project area; no impacts anticipated, project activities will not affect the river or its tributaries.

Species	Status	Habitat Requirements	Exclusion Justification
Gila topminnow ( <i>Poeciliopsis occidentalis occidentalis</i> )	ESA LE	Small streams, springs, and cienegas in vegetated shallows below 4,500 feet.	Could potentially be found in the central portion of the project area; no impacts anticipated, project activities will not affect the river or its tributaries.
Headwater chub ( <i>Gila nigra</i> )	ESA C	Medium-sized streams in large, deep pools often associated with cover such as undercut banks or deep places created by trees and rocks between 3,000 and 6,700 feet.	No suitable habitat present; not found in the Agua Fria drainage.
Longfin Dace ( <i>Agosia chrysogaster</i> )	BLM S	Relatively small or medium size streams, with sandy or gravely bottoms; eddies, pools near overhanging banks or other cover. Usually in water less than 0.6 ft deep with moderate velocities. They are rarely abundant in large streams or above 5,000 feet.	Could potentially be found throughout the project area; no impacts anticipated, project activities will not affect the river or its tributaries.
Razorback sucker ( <i>Xyrauchen texanus</i> )	ESA LE	Riverine and lacustrine areas of the Colorado River and its tributaries below 6,000 feet. Found in backwaters, flooded bottomlands, pools, side channels, and other slower-moving habitats.	No suitable habitat present; not found in the Agua Fria drainage.
Roundtail chub ( <i>Gila robusta</i> )	ESA C	Cool to warm waters of rivers and streams, often occupy the deepest pools and eddies of large streams between 1,000 and 7,500 feet.	No suitable habitat present; not found in the Agua Fria drainage.
Sonora Sucker ( <i>Catostomus insignis</i> )	BLM S	Gravelly or rocky pools, or relatively deep, quiet waters between 1,210 and 8,730 feet. Adults tend to remain near cover in daylight, but move to runs and deeper riffles at night. Young live and utilize runs and quiet eddies.	No suitable habitat present; not found in the Agua Fria drainage.
Speckled Dace ( <i>Rhinichthys osculus</i> )	BLM S	Rocky riffles, runs, and pools of headwaters, creeks, and small to medium rivers; rarely in lakes between 1,550 and 8,920 feet.	Could potentially be found in the northern portion of the project area; no impacts anticipated, project activities will not affect the river or its tributaries.
Spikedace ( <i>Meda fulgida</i> )	ESA LT	Medium to large perennial streams with moderate to swift velocity waters over cobble and gravel substrate at less than 6,000 feet.	No suitable habitat present; not found in the Agua Fria drainage.
Woundfin ( <i>Plagopterus argentissimus</i> )	ESA LE	Shallow, warm, turbid, fast-flowing water below 4,500 feet.	No suitable habitat present; not found in the Agua Fria drainage.
<b>Birds</b>			
American Peregrine Falcon ( <i>Falco peregrinus anatum</i> )	BLM S	Steep, sheer cliffs overlooking woodlands, riparian areas or other habitats supporting avian prey species in abundance. Will also use small broken cliffs in ponderosa pine forest or large sheer cliffs in very xeric areas.	Project activities will take place outside the breeding season.

Species	Status	Habitat Requirements	Exclusion Justification
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	BLM S	Tall, usually old growth trees or high cliff faces, ledges, and pinnacles that are in close proximity to water, between 460 and 7,930 feet.	Project activities will take place outside the breeding season.
Cactus Ferruginous Pygmy-Owl ( <i>Glaucidium brasilianum cactorum</i> )	BLM S	Densely vegetated Sonoran desertscrub washes; streamside cottonwoods and willows and adjacent mesquite bosques, usually with saguaros on nearby slopes between 1,300 and 4,000 feet. Less often along dry washes with large mesquite, paloverde, ironwood, and saguaro. Known range includes southern Arizona, south of suburban Tucson to the Arizona/ Mexico border.	Outside species range.
California Condor ( <i>Gymnogyps californianus</i> )	ESA LE	High desert canyons and plateaus at variable elevations, generally found north of Interstate 40, in northern Arizona.	Outside species range.
California Least Tern ( <i>Sterna antillarum browni</i> )	ESA LE	Open, bare or sparsely vegetated sand, sandbars, gravel pits or exposed flats along shoreline of inland rivers, lakes, reservoirs, or drainage systems at less than 2,000 feet. The California least tern is primarily found in California, but has been documented in Maricopa County.	No impacts anticipated, project activities will not affect the river or its tributaries.
Desert Purple Martin ( <i>Progne subis Hesperia</i> )	BLM S	Densely vegetated Sonoran desertscrub habitat with mature saguaros that have numerous cavities excavated by woodpeckers and flickers, at low elevations between 1,800 and 4,060 feet. Common in the greater Tucson area	No suitable habitat present; prefer areas with higher saguaro density.
Ferruginous Hawk (breeding population only) ( <i>Buteo regalis</i> )	BLM S	Nesting habitat includes open scrublands and woodlands, grasslands, and Semidesert Grassland, as well as agricultural areas between 4,700 and 6,400 feet.	Project area is below nesting elevation for this species.
Gilded Flicker ( <i>Colaptes chrysoides</i> )	BLM S	Sonoran desert upland vegetation with high densities of saguaro between 200 and 3,200 feet.	No suitable habitat present; prefer areas with higher saguaro density.
Golden Eagle ( <i>Aquila chrysaetos</i> )	BLM S	Prefer large, undeveloped areas with mountainous terrain, most commonly nesting on large cliff faces between 4,000 and 10,000 feet.	Project activities will take place outside the breeding season.
Le Conte's Thrasher ( <i>Toxostoma lecontei</i> )	BLM S	Sparsely vegetated lower Sonoran Desert vegetation between 150 and 1,500 feet. Known range includes central Maricopa County south to southwestern Arizona.	Outside species range.
Mexican Spotted owl ( <i>Strix occidentalis lucida</i> )	ESA LT	Statewide in mature montane forest and woodland, old-growth mixed-conifer, and pine-oak forests on steep slopes and canyons from 4,100 to 9,000 feet.	No suitable habitat present.
Northern Goshawk ( <i>Accipiter gentilis atricapillus</i> )	BLM S	Mature or old growth forests between 4,750 and 9,120 feet; prefer large tracts of forested land.	No suitable habitat present.
Pinyon Jay ( <i>Gymnorhinus cyanocephalus</i> )	BLM S	Pinyon pine-juniper woodlands of northern Arizona between 4,600 and 7,800 feet.	No suitable habitat present.

<b>Species</b>	<b>Status</b>	<b>Habitat Requirements</b>	<b>Exclusion Justification</b>
Southwestern Willow Flycatcher ( <i>Empidonax traillii extimus</i> )	ESA LE	Dense cottonwood-willow and tamarisk vegetation communities along rivers and streams below 8,500 feet.	No suitable habitat present; no known nesting occurrences on the Agua Fria River.
Sprague's Pipit ( <i>Anthus spragueii</i> )	ESA C	Native grasslands with vegetation of intermediate height and lacking woody shrubs at less than 5,000 feet.	Rare winter resident in Arizona.
Western Burrowing Owl ( <i>Athene cunicularia hypugaea</i> )	BLM S	Variable in open, well-drained grasslands, steppes, deserts, prairies, and agricultural land, often associated with burrowing mammals. At times observed in open areas such as vacant lots near golf courses, and airports.	No known occurrences within the project vicinity; project activities will take place outside the breeding season.
Yellow-billed Cuckoo ( <i>Coccyzus americanus</i> )	ESA C	Large blocks of mature riparian woodlands (cottonwood, willow, or tamarisk galleries) below 6,500 feet.	Suitable nesting habitat present; work will be conducted outside of the breeding season and no project activities are to occur in riparian vegetation.
Yuma Clapper Rail ( <i>Rallus longirostris yumanensis</i> )	ESA LE	Fresh and brackish marshes with dense emergent vegetation and wet substrates along the lower Colorado River and its tributaries below 4,500 feet.	No suitable habitat present.
<b>Mammals</b>			
Black-footed Ferret ( <i>Mustela nigripes</i> )	ESA LE	Grasslands plains generally in association with prairie dogs below 10,500 feet	No suitable habitat present.
California Leaf-nosed Bat ( <i>Macrotus californicus</i> )	BLM S	Sonoran desertscrub, primarily roost in mines, caves, rock shelters, and manmade structures. Prefer roost sites with large areas of ceiling and flying space. Nocturnal roosts are found in places that provide overhead protection and an adequate flight approach. Elevation ranges from 160 - 3,980 feet.	Could potentially use the project area for foraging; however, project activities will not impact roost structures and work will not occur at night. No impacts.
Cave Myotis ( <i>Myotis velifer</i> )	BLM S	Desertscrub vegetation that includes creosote, brittlebush, palo verde and cacti. Roost in caves, tunnels, and mineshafts, and under bridges, and sometimes in buildings within a few miles of water, generally between 300 and 5,000 feet.	Could potentially use the project area for foraging; however, project activities will not impact roost structures and work will not occur at night. No impacts.
Greater Western Mastiff Bat ( <i>Eumops perotis californicus</i> )	BLM S	Lower and upper Sonoran desertscrub near cliffs, preferring the rugged rocky canyons with abundant crevices, between 240 and 8,475 feet. Prefer crowding into tight crevices a foot or more deep and two inches or more wide. Colonies prefer crevices even deeper, to ten or more feet. Entrances to roosting crevices are usually horizontal but facing downward which facilitates entry and exit.	Could potentially use the project area for foraging; however, project activities will not impact roost structures and work will not occur at night. No impacts.
Lesser long-nosed bat ( <i>Leptonycteris currosae yerbabuena</i> )	ESA LE	Desert grassland and scrubland up to oak transition areas with columnar cacti or agave below 6,000 feet. Known range generally includes areas south of Tucson in Pima, Santa Cruz, and Cochise counties.	Outside species' range.

Species	Status	Habitat Requirements	Exclusion Justification
Sonoran pronghorn ( <i>Antilocapra americana sonoriensis</i> )	ESA LE	Arizona Upland and Lower Colorado River Valley Sonoran desertscrub in broad alluvial valleys south of Interstate 8 from the western boundary of the Cabeza Prieta Wildlife Refuge east to State Route 85.	Outside species' range.
Townsend's Big-eared Bat ( <i>Corynorhinus [= Plecotus] townsendii</i> )	BLM S	Summer day roosts found in caves and mines from desertscrub up to woodlands and coniferous forests. Night roosts often located in abandoned buildings. In winter, hibernate in cold caves, lava tubes and mines. Wide elevation range from 550 to 8,437 feet.	Could potentially use the project area for foraging; however, project activities will not impact roost structures and work will not occur at night. No impacts.
<b>Reptiles and Amphibians</b>			
Arizona Toad ( <i>Bufo microscaphus</i> )	SGCN 1b	Rocky streams and canyons in the pine-oak belt. As well as in the lower deserts in the Agua Fria River drainage; from near sea level to approximately 8,000 feet.	Could potentially be found in the project area; however no impacts are anticipated as project activities will not affect riparian areas.
Chiricahua Leopard Frog ( <i>Lithobates chiricahuensis</i> )	ESA LT	Streams, rivers, backwaters, ponds, and stock tanks between 3,300 and 8,900 feet and are mostly free from introduced species. Known range includes the eastern most portion of central Yavapai County, then east and south through southeastern Arizona.	Outside species range.
Great Plains Narrow-mouthed Toad ( <i>Gastrophryne olivacea</i> )	BLM S	Mesquite semi-desert grassland to oak woodland, in the vicinity of streams, springs, and rain pools between 1,400 and 4,700 feet. More terrestrial than aquatic in habits. Can be found in deep, moist crevices or burrows, often with various rodents, and under large flat rocks, dead wood, and other debris near water. Known range includes southeastern Maricopa County into Pima County and south to the border.	Outside species range.
Lowland Burrowing Treefrog ( <i>Smilisca fodiens</i> )	BLM S	Xeric environments, lives in burrows in low open mesquite grasslands, usually associated with major washes and arroyos, between 1,930 and 2,480 feet. Known range includes southeastern Maricopa County into Pima County.	Outside species range.
Lowland Leopard Frog ( <i>Rana yavapaiensis</i> )	BLM S	Found to utilize and breed in a variety of natural riparian areas such as rivers, permanent streams, permanent pools in intermittent streams, beaver ponds, cienegas, and springs; and man-made aquatic systems. Inhabit aquatic systems in desert grasslands to pinyon-juniper and are generally found below 6,200 feet.	Could potentially be found in the project area; however no impacts are anticipated as project activities will not affect riparian areas.
Northern Mexican Gartersnake ( <i>Thamnophis megalops</i> )	ESA C	Found in densely vegetated habitat within riparian areas such as ponds, cienegas, and marshes in desertscrub and occasionally lower oak woodlands that surround streams and stock tanks, and upland stream gallery forests between 3,000 feet and 5,000 feet.	Could potentially be found in the project area; however no impacts are anticipated as project activities will not affect riparian areas.

Species	Status	Habitat Requirements	Exclusion Justification
Sonoran Green Toad ( <i>Bufo retiformis</i> )	BLM S	Rain pools, wash bottoms, and areas near water in semi-arid mesquite-grassland, creosote bush desert, and upland saguaro-palo verde desert scrub between 500 and 3,225 feet. Known range includes southeastern Maricopa County into Pima County and south to the border.	Outside species range.
Sonora Mud Turtle ( <i>Kinosternon sonoriense sonoriense</i> )	BLM S	Springs, creeks, ponds, and waterholes of intermittent streams from sea level to about 6,700 feet.	Could potentially be found in the project area; however no impacts are anticipated as project activities will not affect riparian areas.
Sonoran Desert Toad ( <i>Bufo alvarius</i> )	SGCN 1b	Occurs in a variety of habitats including creosote bush desertscrub, grasslands up into oak-pine woodlands; habitats are semi-aquatic and often in association with streams, near springs, in canals and drainage ditches and under water troughs.	Could potentially be found in the project area; however no impacts are anticipated as project activities will not affect riparian areas.
Tucson shovel-nosed snake ( <i>Chionactis occipitalis klauberi</i> )	ESA C	Creosote-mesquite floodplain environments with soft sandy soils having sparse gravel between 785 and 1,662 feet. Known range includes southeastern Maricopa County east into Pinal County and south into Pima County	Outside species range.
<b>Invertebrates</b>			
Page springsnail ( <i>Pyrgulopsis morrisoni</i> )	ESA C	Permanently saturated cienegas, firm substrate like cobble, gravel, woody debris and aquatic vegetation between 3,300 and 3,600 feet. Known range includes northeastern Yavapai County.	Outside species range.

Table Source: U.S. Fish and Wildlife Service's list of threatened, endangered, proposed, candidate, and conservation-agreement species potentially occurring in Maricopa and Yavapai Counties (USFWS 2012); *BLM Sensitive Species List for Arizona* (BLM 2010d); Arizona Game and Fish Department's Species of Greatest Conversation Need list (AGFD 2012).

Table Abbreviations: ESA = Endangered Species Act; BLM = Bureau of Land Management; LE = listed endangered; LT = listed threatened; C = candidate; S = sensitive species; SGCN 1b = Species of Greatest Conservation Need Tier 1b.

**Appendix B**  
**Authorized and Pending BLM Land Uses**

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### Dugas-Morgan Land Use Authorizations

File No.	Type Use	Name	Status	Township	Range	Section
AZA 030300	Special Recreation Use Permit	AZ Classic Jeep Tours	Authorized	7 North	2 East	20
AZA 031778	Special Recreation Use Permit	Extreme Hummer Adventure	Pending	7 North	2 East	04
AZA 032498	Special Recreation Use Permit	Roadrunner Desert Adventures	Authorized	7 North	2 East	04
AZA 034785	Special Recreation Use Permit	AZ Outdoor Fun Rentals	Pending	7 North	2 East	04
AZA 032611	Special Recreation Use Permit	AZ Classic Bronco Inc.	Authorized	7 North	2 East	04, 08, 09, 17, 20
AZA 027398	Apiary Permit	Dennis Arp	Authorized	8 North	2 East	34
AZA 030300	Special Recreation Use Permit	AZ Classic Jeep Tours	Authorized	8 North	2 East	27, 34
AZA 030376	Special Recreation Use Permit	Wayward Wind	Authorized	8 North	2 East	14, 27, 34
AZA 030598	Special Recreation Use Permit	Desert Dog Hummer	Authorized	8 North	2 East	27, 34
AZA 031558	Special Recreation Use Permit	Canyon Creek Ranch	Pending	8 North	2 East	27, 34
AZA 031778	Special Recreation Use Permit	Extreme Hummer Adventure	Pending	8 North	2 East	27, 34
AZA 031851	Special Recreation Use Permit	Bumble Bee Ranch Adventures	Authorized	8 North	2 East	27, 34
AZA 031558	Special Recreation Use Permit	Canyon Creek Ranch	Pending	9 North	2 East	24

## Dugas-Morgan BLM Right-of-Way Land Use Authorizations

File No.	Type Use	Name	Status	Township	Range	Section
<b>7 North 2 East, Sections 4, 8, 9, 17, and 20</b>						
AZA 004393	Right-of-Way	AZ Public Services	Authorized	7 North	2 East	04
AZA 006121	Right-of-Way	AZ Public Services	Authorized	7 North	2 East	04,08,09,17,20
		Tucson Electric Power Co.				
		SRP Public Lands Div.				
AZA 013912	Right-of-Way	QWEST Corp.	Authorized	7 North	2 East	08,17
AZA 018930	Right-of-Way	Maricopa County DOT	Authorized	7 North	2 East	04
AZA 032706	Right-of-Way	Clark Real Estate Co.	Authorized	7 North	2 East	04
<b>8 North 2 East, Sections 1, 12, 14, 23, 26, 27, and 34</b>						
AZA 002697	Right-of-Way	AZ SHWY	Authorized	8 North	2 East	27,34
AZA 006014	Right-of-Way	AZ Public Service	Authorized	8 North	2 East	27,34
AZA 006121	Right-of-Way	AZ Public Service	Authorized	8 North	2 East	01,12,14,23,26,27,34
		SRP Public Land				
		Tucson Electric Power Co.				
AZA 022632	Right-of-Way	QWEST Corp.	Authorized	8 North	2 East	27,34
AZA 023641	Right-of-Way	AT&T	Authorized	8 North	2 East	27,34
AZA 030529	Right-of-Way	Ben Brooks & Assoc	Authorized	8 North	2 East	27,34
		Lake Pleasant Prop Owners				
AZA 032803	Right-of-Way	AZ DOT	Authorized	8 North	2 East	27,34
AZA 033350	Right-of-Way	Transwestern Pipeline Co.	Authorized	8 North	2 East	27,34
AZA 03335003	Right-of-Way	Transwestern Pipeline Co.	Authorized	8 North	2 East	27
AZA 03335004	Right-of-Way	Transwestern Pipeline Co.	Authorized	8 North	2 East	27,34
AZA 035200	Right-of-Way	GJG ACP II LLC	Authorized	8 North	2 East	27
AZA 035204	Right-of-Way	Gillette Invst LLC	Authorized	8 North	2 East	27
AZAR 0010913	Right-of-Way	El Paso Electric Co	Authorized	8 North	2 East	27,34
AZPHX 0083282	Right-of-Way	AZ SHWY	Authorized	8 North	2 East	27
AZPHX 0083283	Right-of-Way	AZ SHWY	Authorized	8 North	2 East	34
AZPHX 0085401	Right-of-Way	DOE WTN AREA PWR ADM	Authorized	8 North	2 East	27,34
AZPHX 0085972	Right-of-Way	AZ SHWY	Authorized	8 North	2 East	27
<b>9 North 2 East, Section 24</b>						
AZA 027214	Right-of-Way	AZ Public Service	Authorized	9 North	2 East	24
AZA 027222	Right-of-Way	QWEST Corp.	Authorized	9 North	2 East	24
AZA 027240	Right-of-Way	AZ Public Service	Authorized	9 North	2 East	24
<b>11 North 3 East, Section 7</b>						
AZA 027240	Right-of-Way	AZ Public Service	Authorized	11 North	3 East	07

**Appendix C**  
**BLM Routes Proposed for Project Access**

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### BLM Proposed Route Designations

Official BLM Sign No.	Current Decision	New Decision	Asset Type	Maintenance Intensity	Analysis Number (formerly "Route No. for Designation") [1]	Justification for Change (also compliance with 43 CFR 8342.1)
9027A	Closed to all uses	Limited to Admin Use Only	Primitive Road - Limited to Administrative Use Only	1	2027D	Route is needed to provide APS with access to an authorized powerline. Reopening this previously closed route and designating it as a Primitive Road-Limited to Administrative Use minimizes effects to hiking and equestrian use, Pronghorn and other wildlife movement and habitat, changes to wilderness character by greatly reducing the presence of vehicles in the area.
9027A	Closed to all uses	Limited to Admin Use Only	Primitive Road - Limited to Administrative Use Only	1	2027E	Route is needed to provide APS with access to an authorized powerline. Reopening this previously closed route and designating it as a Primitive Road-Limited to Administrative Use minimizes effects to hiking and equestrian use, Pronghorn and other wildlife movement and habitat, changes to wilderness character by greatly reducing the presence of vehicles in the area.
9027B	Closed to all uses (Not inventoried)	Limited to Admin Use Only	Primitive Road - Limited to Administrative Use Only	1	2150 (new)	Route is needed to provide APS with access to an authorized powerline. Creating a new route is necessary to access a work area. Limiting access to this Primitive Road-Limited to Administrative Use Only by use of a gate will minimize effects to resources by limiting the number and frequency of vehicles in this backcountry area. Use levels are expected to be low, 1-2 times per year and would have little or no effect on Pronghorn fawning or habitat in general.

<b>Official BLM Sign No.</b>	<b>Current Decision</b>	<b>New Decision</b>	<b>Asset Type</b>	<b>Maintenance Intensity</b>	<b>Analysis Number (formerly "Route No. for Designation") [1]</b>	<b>Justification for Change (also compliance with 43 CFR 8342.1)</b>
9027A	Closed to all uses (Not inventoried)	Limited to Admin Use Only	Primitive Road - Limited to Administrative Use Only	1	2151 (new)	Route is needed to provide APS with access to an authorized powerline. Creating a new route is necessary to access a work area. Limiting access to this Primitive Road-Limited to Administrative Use Only by use of a gate will minimize effects to resources by limiting the number and frequency of vehicles in this backcountry area. Use levels are expected to be low, 1-2 times per year and would have little or no effect on Pronghorn fawning or habitat in general.
9269B	Closed to all uses (Not inventoried)	Limited to Admin Use Only	Primitive Road - Limited to Administrative Use Only	1	2152 (new)	Route is needed to provide APS with access to an authorized powerline. Creating a new route is necessary to access a work area. Limiting access to this Primitive Road-Limited to Administrative Use Only by use of a gate will minimize effects to resources by limiting the number and frequency of vehicles in this backcountry area. Use levels are expected to be low, 1-2 times per year and would have little or no effect on Pronghorn fawning or habitat in general.
9018A	Closed to all uses (Not inventoried)	Limited to Admin Use Only	Primitive Road - Limited to Administrative Use Only	1	2153 (new)	Route is needed to provide APS with access to an authorized powerline. Creating a new route is necessary to access a work area. Limiting access to this Primitive Road-Limited to Administrative Use Only by use of a gate will minimize effects to resources by limiting the number and frequency of vehicles in this backcountry area. Use levels are expected to be low, 1-2 times per year and would have little or no effect on Pronghorn fawning or habitat in general.

<b>Official BLM Sign No.</b>	<b>Current Decision</b>	<b>New Decision</b>	<b>Asset Type</b>	<b>Maintenance Intensity</b>	<b>Analysis Number (formerly "Route No. for Designation") [1]</b>	<b>Justification for Change (also compliance with 43 CFR 8342.1)</b>
9269B-1	Closed to all uses (Not inventoried)	Limited to Admin Use Only	Primitive Road - Limited to Administrative Use Only	1	2154 (new)	Route is needed to provide APS with access to an authorized powerline. Creating a new route is necessary to access a work area. Limiting access to this Primitive Road-Limited to Administrative Use Only by use of a gate will minimize effects to resources by limiting the number and frequency of vehicles in this backcountry area. Use levels are expected to be low, 1-2 times per year and would have little or no effect on Pronghorn fawning or habitat in general.
9999G	Closed to all uses (Not inventoried)	Limited to Admin Use Only	Primitive Road - Limited to Administrative Use Only	1	13670 (new)	Route is needed to provide APS with access to an authorized powerline. Creating a new route is necessary to access a work area. Limiting access to this Primitive Road-Limited to Administrative Use Only by use of a gate will minimize effects to resources by limiting the number and frequency of vehicles in this high use area where new target shooting sites would likely begin (and such use would be unsafe). Administrative use levels are expected to be low, averaging 1-2 times per year and would have little or no effect on existing recreation and wildlife habitat..
9999H	Closed to all uses (Not inventoried)	Limited to Admin Use Only	Primitive Road - Limited to Administrative Use Only	1	13671 (new)	Route is needed to provide APS with access to an authorized powerline. Creating a new route is necessary to access a work area. Limiting access to this Primitive Road-Limited to Administrative Use Only by use of a gate will minimize effects to resources by limiting the number and frequency of vehicles in this high use area where new target shooting sites would likely begin (and such use would be unsafe). Administrative use levels are expected to be low, averaging 1-2 times per year and would have little or no effect on existing recreation and wildlife habitat..

*Table General Note:* BLM has discontinued assigning functional classes to routes; consequently, functional classes do not appear in this table.

*Table Note:* [1] Analysis number corresponds to "ROUTE\_ID" identified by BLM. BLM road number corresponds to "ROAD\_NO" identified by BLM.

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**Appendix D**  
**Nationwide Permit No. 12**

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