

Final

**ENVIRONMENTAL ASSESSMENT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**



**U.S. Department of Homeland Security
U.S. Customs & Border Protection
U.S. Border Patrol
Washington, D.C.**

February 2008

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

PROJECT HISTORY: The United States (U.S.) Border Patrol (USBP) is a law enforcement entity of U.S. Customs and Border Protection (CBP), a component of U.S. Department of Homeland Security (DHS). USBP's priority mission is to prevent the entry of terrorists and terrorist weapons and to enforce the laws that protect the U.S. homeland by the detection, interdiction, and apprehension of those who attempt to illegally enter or smuggle any person or contraband across the sovereign borders of the U.S.

During recent years, illegal aliens (IA) and illegal entry into the U.S. along the U.S.-Mexico border in southern Arizona has become a severe problem. Consequently, USBP has significantly increased its emphasis on deterrence. Deterrence is achieved only when USBP has the ability to create and convey the immediate, credible, and absolute certainty of detection and apprehension. As such, tactical infrastructure components, such as fencing and roads, are a critical element in the current enforcement strategy. Developing trends such as the recognition of environmental preservation concerns and the increase of criminal trans-boundary activities (including trafficking in people, drugs, and terrorism efforts) continue to pose a border enforcement challenge and support the ever increasing need for tactical infrastructure along the international border.

In 2001, the Immigration and Naturalization Service (INS) prepared the Supplemental Programmatic Environmental Impact Statement (SPEIS) for INS and Joint Task Force 6 (JTF-6) Activities along the U.S.-Mexico Border. Additionally, in December 2003, National Park Service (NPS) issued a Final Finding of No Significant Impact (FONSI) and Final EA for the Proposed Permanent Vehicle Barriers (PVB) across the southern boundary of the Organ Pipe Cactus National Monument (OPCNM) in Pima County, Arizona. The PVBs span approximately 30 miles of the U.S.-Mexico border. The PVBs constructed by NPS have served effectively and efficiently in deterring and hindering illegal vehicle traffic on the OPCNM.

PROJECT LOCATION: The project corridor for the proposed action extends 2.1 miles to the west and 3.1 miles to the east of the Lukeville Port of Entry (POE), which encompasses approximately 5.2 miles total.

PURPOSE AND NEED: The purpose and need for the NPS 2003 Final EA was to prevent illegal vehicle traffic from degrading the biological resources of OPCNM as well as to protect the health and safety of Federal staff and visitors. The construction of the PVBs met the stated purpose and need of the NPS 2003 Final EA. However, since the completion of the NPS 2003 Final EA, shifts in IA traffic and recent Federal legislation have required changes in the designs of border tactical infrastructure. Therefore, the purpose of the proposed primary pedestrian fence is to help CBP agents and officers gain effective control of our nation's borders. CBP is developing and deploying the appropriate mix of technology, infrastructure, and personnel. In some locations, primary pedestrian fence is a critical element of border security. In alignment with Federal mandates, USBP has identified this area of the border as a location where primary pedestrian fence would contribute significantly to their priority homeland security mission. The

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

need for the proposed action is to meet USBP operational requirements; provide a safer environment for USBP agents, NPS staff, and general public; deter IAs by constructing an impediment to northward movement into the U.S.; enhance the response time of USBP agents; and meet the mandates of Federal legislation (i.e., Secure Fence Act of 2006 and 2007 Department of Homeland Security [DHS] Appropriations Act [HR 5441]).

ALTERNATIVES: Two alternatives were carried forward for analysis: Alternative 1: No Action Alternative and Alternative 2: Proposed Action Alternative (i.e., Preferred Alternative).

Alternative 1: No Action Alternative: The No Action Alternative would preclude the installation of primary pedestrian fence. The existing PVBs would continue to be maintained by NPS. The No Action Alternative does not meet the project's purpose and need, but has been carried forward for analysis, as defined in 40 Code of Federal Regulations (CFR) Section 1502.14. The No Action Alternative does not meet the mandates of Federal legislation and does not enhance the detection, deterrence, or apprehensions of IAs.

Alternative 2: Proposed Action Alternative: The Proposed Action Alternative includes the construction and maintenance of 5.2 miles of primary pedestrian fence along the U.S.-Mexico border near Lukeville, Arizona. The project corridor would extend 2.1 miles to the west and 3.1 miles to the east of the Lukeville POE. Approximately 5.2 miles of primary pedestrian fence would be constructed. Construction activities would remain within the 60-foot Roosevelt Reservation with the exception of the western most 0.65 miles. The western most 0.65 miles, which would be built over Sonoyta Hill, requires a construction footprint of 150 feet. The primary pedestrian fence would be installed approximately 3 feet north of the existing PVBs with the exception of the western most 0.65 miles over Sonoyta Hill. Due to the lack of PVBs over Sonoyta Hill the fence would be constructed approximately 3 feet north of the U.S.-Mexico border within these 0.65 miles. A mesh fence design would be used and would meet design performance measures which dictate that the fence must:

- extend 15 feet above ground and 3 to 6 feet below ground;
- be capable of withstanding a crash of a 10,000-pound (gross weight) vehicle traveling at 40 miles per hour;
- be semi-transparent, as dictated by operational need;
- be vandal resistant;
- be designed to survive the extreme climate changes of a desert environment;
- not impede the natural flow of water; and
- allow for maintenance access to border monuments as required by the U.S. Section, International Boundary and Water Commission.

Furthermore, in most washes or arroyos, the fence would be designed and constructed to ensure proper conveyance of floodwaters and to eliminate the potential to cause backwater flooding on

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

either side of the U.S.-Mexico border. CBP will remove debris from the fence within washes/arroyos immediately after rain events to ensure that no backwater flooding occurs.

Staging areas and turnarounds would be located within the Roosevelt Reservation. Construction access would include the use of the existing patrol road adjacent to the U.S.-Mexico border as well as South Puerto Blanco Road in order to construct the primary pedestrian fence and road over Sonoyta Hill. Additionally, the road, existing PVBs, and primary pedestrian fence would be maintained by CBP to ensure the integrity of the road and primary pedestrian fence is not compromised.

ENVIRONMENTAL CONSEQUENCES: The Proposed Action Alternative could permanently impact up to 45 acres. However, approximately 17 acres of the project corridor are previously disturbed from the construction of the existing PVBs. Impacts to wildlife, unique and sensitive areas, vegetation, and aesthetics would be expected. Wildlife movement across the international boundary would be impeded within the corridor, but these impacts would be minimal to local and regional wildlife populations. The viewshed of the OPCNM would be impacted by the construction of the pedestrian fence; however, once completed, the fence would afford greater safety to park visitors and sensitive resources. Temporary impacts to air quality, noise, and water resources are expected during construction.

CBP has determined that the Proposed Action Alternative may adversely affect the lesser long-nosed bat and Sonoran pronghorn. Consequently, CPB and the USFWS are currently in formal Section 7 consultation to address these effects and identify conservation measures. Some conservation measures for the pronghorn that have been identified and would be implemented include:

1. During construction USBP will conduct daily observations of project region as close to dawn as possible to determine if Sonoran pronghorn are within 0.62 mile of project activities. No project work will begin until pronghorn move on their own volition to a distance greater than 0.62 mile from the activities. This measure would be relevant for those activities only on the western slope of Sonoyta Hill, where there is a greater potential for pronghorn to occur.
2. The number of vehicles traveling to and from the project site for construction purposes and the number of trips per day will be minimized to reduce the likelihood of disturbing pronghorn in the area or injuring an animal on the road. The use of vehicle convoys, multi-passenger vehicles, and other methods are appropriate to project construction.
3. CBP will provide assistance to annually fill one supplemental water for Sonoran pronghorn on OPCNM per the CBP programmatic mitigation agreement with USFWS.

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Examples of other conservation measures that have been identified and would be implemented to offset effects to the lesser long-nosed bat include the following:

1. Clearly demarcate the construction footprint to ensure construction contractors do not expand the disturbance area.
2. Salvage of lesser-long nosed bat food plants from areas to be disturbed by project activities as described in the salvage plan.
3. Complete a restoration plan for various illegal trails and roads to compensate for creation or improvement of roads needed for the fence project (in addition to other concerns, this will address the control of non-native, invasive plant species) within six months of issuance of the Biological Opinion.

The potential exists for shifts in illegal pedestrian traffic to adversely impact resources outside of the project corridor; however, these impacts are not quantifiable at this time because it is unknown if, when, or where this shift in traffic may occur. Because the primary pedestrian fence would act as a force multiplier, USBP would be able to deploy agents to those areas that lack pedestrian barriers in an effort to minimize any indirect adverse impacts. Indirect beneficial impacts, such as a reduced amount of trash and debris caused by IAs, would result from the construction of the Proposed Action Alternative.

No significant adverse effects to the natural or human environment, as defined in 40 CFR Section 1508.27 of the Council on Environmental Quality's Regulations for Implementing the National Environmental Policy Act, are expected upon implementation of the Proposed Action Alternative.

MITIGATION MEASURES: Mitigation measures are presented for each resource category that would be potentially affected. Many of these measures have been incorporated as standard operating procedures by the USBP on past projects. It is USBP policy to mitigate adverse impacts through the sequence of avoidance, minimization, and compensation. These mitigation measures would be incorporated into the current Project Management Plan to be carried forward.

General Construction Activities: Best Management Practices (BMPs) would be implemented as standard operating procedures during all construction activities, and would include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils and solvents would be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery would be completed following accepted industry guidelines, and all vehicles could have drip pans during storage to contain minor spills and drips. Although it will be unlikely for a major spill to occur, any spill of reportable quantities would be contained immediately within an earthen dike, and the application of an absorbent (e.g., granular,

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

pillow, sock, *etc.*) would be used to absorb and contain the spill. Furthermore, any petroleum liquids (e.g., fuel) or material listed in 40 Code of Federal Register (CFR) 302 Table 302.4 of a reportable quantity must be cleaned up and reported to the appropriate Federal and state agencies. Reportable quantities of those substances listed on 40 CFR 302 Table 302.4 would be included as part of the Spill Prevention, Control, and Countermeasures Plan (SPCCP). A SPCCP would be in place prior to the start of construction and all personnel would be briefed on the implementation and responsibilities of this plan.

All construction would follow DHS management directive 5100 for waste management. All waste oil and solvents would be recycled. All non-recyclable hazardous and regulated wastes would be collected, characterized, labeled, stored, transported and disposed of in accordance with all Federal, state, and local regulations, including proper waste manifesting procedures.

Solid waste receptacles would be maintained at staging and bivouac areas. Non-hazardous solid waste (trash and waste construction materials) would be collected and deposited in the on-site receptacles. Solid waste would be collected and disposed of by a local waste disposal contractor. Waste materials and other discarded materials would be removed from the site as quickly as possible in an effort to keep the project area and surroundings free of litter.

Waste water (water used for project purposes that is contaminated with construction materials, was used for cleaning equipment and thus carries oils or other toxic materials or other contaminants in accordance with state regulations) is to be stored in closed containers on site until removed for disposal. Concrete wash water would not be dumped on the ground, but is to be collected and moved offsite for disposal.

Soils: Erosion control techniques, such as the use of straw bales (weed free straw), aggregate materials, wetting compounds (i.e., water) and revegetation with native plant species, where possible, would be incorporated with the design of the Proposed Action Alternative. In addition, other erosion control measures, as required and promulgated through the Storm Water Pollution Prevention Plan (SWPPP), would be implemented before and after construction activities.

Biological Resources: All contractors, work crews (including National Guard and military personnel), and CBP personnel in the field performing construction and maintenance activities would receive training on the habitat and habits of the species that are found in the area, including information on how to avoid impacts to the species from their activities. This training would be provided to all contractor and work crew project managers and senior military leaders who are working onsite. It would be the responsibility of these project managers and senior military leaders to ensure that their personnel are familiar with the BMPs and other limitations and constraints.

The Migratory Bird Treaty Act requires that Federal agencies coordinate with U.S. Fish and Wildlife Service (USFWS) if a construction activity would result in the "take" of a migratory bird.

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

If construction or clearing activities are scheduled during the nesting season (typically March 15 through September 15) preconstruction surveys for migratory bird species would occur immediately prior to the start of any construction activity to identify active nests. If construction activities would result in the "take" of a migratory bird, then coordination with USFWS and Arizona Game and Fish Department would occur, and applicable permits would be obtained prior to construction or clearing activities.

Although no Sonoran desert tortoises or Mexican rosy boas were observed during biological surveys the potential exists for these species to occur in and near Sonoyta Hill. In the event a tortoise or boa is observed within the construction corridor during construction activities, a qualified biologist would capture and relocate the individual to an area outside of the corridor but still on Sonoyta Hill.

CBP would truck water into the project site for purposes of construction to ensure that no impacts to flora or fauna near and within Quitobaquito Springs would occur.

A salvage plan would be developed by the CBP, in close coordination with NPS, prior to construction activities. CBP will salvage as many columnar cacti as possible. CBP will develop and fund a restoration plan, in coordination with the NPS to restore illegal trails and roads on OPCNM. This will enhance bat foraging opportunities.

Materials used for on-site erosion control would be free of non-native plant seeds and other plant parts to limit potential for infestation. Additionally, all areas within the construction footprint would be monitored for a period of three years for the spread and eradication of non-native and invasive species. Construction equipment would be cleaned using BMPs prior to entering and departing the OPCNM to minimize the spread and establishment of non-native and invasive species.

Cultural Resources: Construction near the Gachado Line Camp would be monitored by a professional archeological monitor to ensure no impacts would occur. Buffers would be established around the three historic objects that lie within the proposed construction corridor in order to avoid any adverse effects to these significant cultural resources. If any cultural material is discovered during the construction efforts, then all activities would halt until a qualified archeologist can be brought in to assess the cultural remains.

Water Resources: Standard construction procedures would be implemented to minimize the potential for erosion and sedimentation during construction. All work would cease during heavy rains and would not resume until conditions are suitable for the movement of equipment and material. In accordance with regulations of the Environmental Protection Agency Phase II of the National Pollutant Discharge Elimination System stormwater program, a SWPPP would be required for stormwater runoff from construction activities greater than 1 acre and less than 5 acres. Therefore, a SWPPP would be prepared and the Notice of Intent submitted prior to the start

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

of any construction. Equipment required for the construction activities would not be staged or stored within 100 feet of any wash to prevent any contamination from accidental petroleum, oil, or lubricant spills that could occur. Primary pedestrian fence constructed in washes/arroyos would be designed to ensure proper conveyance of floodwaters and to eliminate the potential to cause backwater flooding on either side of the U.S.-Mexico border. Immediately after rain events, CBP would be responsible for ensuring that debris is removed from the primary pedestrian fence within washes/arroyos to ensure that no backwater flooding occurs. Additionally, all concrete trucks would be washed and cleaned outside of the project corridor and OPCNM lands.

Air Quality: Standard construction practices such as routine watering of the construction site would be used to control fugitive dust during the construction phases of the proposed project. Additionally, all construction equipment and vehicles would be required to be kept in good operating condition to minimize exhaust emissions.

Noise: During the construction phase, short-term noise impacts are anticipated. All Occupational Safety and Health Administration requirements would be followed. On-site activities would be restricted to daylight hours with the exception of concrete pours and emergency situations. Construction equipment would possess properly working mufflers and would be kept properly tuned to reduce backfires. Implementation of these measures would reduce the expected short-term noise impacts to an insignificant level in and around the construction site.

Aesthetics: In order to minimize potential aesthetic impacts over Sonoyta Hill, CBP would use subdued and non-reflective materials to build the primary pedestrian fence. These materials are expected to blend with the landscape as it naturally rusts.

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

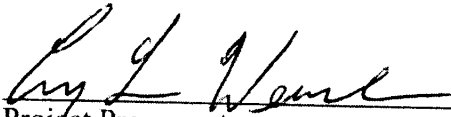
FINDING: Based upon the results of the environmental assessment and the mitigation measures to be incorporated as part of the Proposed Action Alternative, it has been concluded that the Proposed Action Alternative will not have a significant effect on the environment. Therefore, no further environmental impact analysis is warranted.



Robert F. Janson
Office of Finance Management
Acting Executive Director, Asset Management
U.S. Customs and Border Protection

2/13/08

Date



Project Proponent
Assistant Chief Patrol Agent, Craig Weinbrenner
Office of Border Patrol
Tucson Sector Headquarters

1/30/08

Date

Final

**ENVIRONMENTAL ASSESSMENT
FOR THE PROPOSED INSTALLATION, OPERATION, AND
MAINTENANCE OF PRIMARY PEDESTRIAN FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

January 2008

Lead Agency: U.S. Customs and Border Protection
Asset Management Division
Portfolio Management Branch
Room 3.4-D
1300 Pennsylvania Avenue, N.W.
Washington, D.C. 20229

Point of Contact: Mr. George Hutchinson
U.S. Customs and Border Protection
Room 3.4-D
1300 Pennsylvania Avenue, N.W.
Washington, D.C. 20229

EXECUTIVE SUMMARY

BACKGROUND: National Park Service (NPS) issued a Finding of No Significant Impact (FONSI) and Final Environmental Assessment (EA) for the Proposed Permanent Vehicle Barriers (PVB) in 2003, which addressed the construction of PVBs across the southern boundary of the Organ Pipe Cactus National Monument (OPCNM) in Pima County, Arizona. The PVBs span approximately 30 miles of the United States (U.S.) – Mexico border. The PVBs constructed by the NPS have served effectively and efficiently in deterring and hindering illegal vehicle traffic on the OPCNM.

PURPOSE AND NEED FOR THE PROPOSED PROJECT: The purpose of the proposed primary pedestrian fence is to help U.S. Customs and Border Protection (CBP) agents and officers gain effective control of our nation's borders. CBP is developing and deploying the appropriate mix of technology, infrastructure, and personnel. In some locations, primary pedestrian fence is a critical element of border security. In alignment with Federal mandates, U.S. Border Patrol (USBP) has identified this area of the border as a location where primary pedestrian fence would contribute significantly to their homeland security mission. The need for the proposed action is to meet USBP operational requirements; provide a safer environment for USBP agents, NPS staff, and general public; deter illegal aliens (IAs) by constructing an impediment to northward movement into the U.S.; enhance the response time of USBP agents; and meet the mandates of Federal legislation (i.e., Secure Fence Act of 2006 and 2007 Department of Homeland Security [DHS] Appropriations Act [HR 5441]).

PROPOSED ACTION: The Proposed Action Alternative includes the construction and maintenance of 5.2 miles of primary pedestrian fence along the U.S.-Mexico border near Lukeville, Arizona. Approximately 3.1 miles and 2.1 miles of primary pedestrian fence would be installed on the east and west sides of the Lukeville POE, respectively. The primary pedestrian fence would be constructed approximately 3 feet north of the existing PVBs with the exception of 0.65 miles over Sonoyta Hill. Construction activities would remain within the 60-foot Roosevelt Reservation with the exception of the western most 0.65 miles. The western most 0.65 miles, which would be built over Sonoyta Hill, requires a construction footprint of 150 feet and the fence would be built approximately 3 feet north of the U.S.-Mexico border due to no PVBs existing over Sonoyta Hill.

The design selected for the primary pedestrian fence is a mesh design. It would be 15 feet high and capable of withstanding a crash from a 10,000-pound (gross weight) vehicle traveling at 40 miles per hour. Currently, an existing patrol road parallels most of the border in the project corridor, which would also be used for access during construction of the primary pedestrian fence and as a maintenance road when construction is completed. However, this road would

need to be widened by approximately 30 feet to accommodate construction equipment needed to install the fence. This construction/maintenance road would encompass the entire 60-foot wide Roosevelt Reservation once completed. In addition, a new road would need to be constructed in order to install the primary pedestrian fence over Sonoyta Hill; this new road would be in the westernmost 0.65 mile of the project corridor. CBP will be responsible for maintaining the road, existing PVBs, and primary pedestrian fence.

**ALTERNATIVES TO
THE PROPOSED
ACTION:**

Alternatives addressed in the EA include: Alternative 1: No Action Alternative, which would preclude the construction of any primary pedestrian fence, and Alternative 2: Proposed Action Alternative (i.e., Preferred Alternative). The No Action Alternative would not fully meet the mandate established by Federal legislation and only incrementally enhances the detection, deterrence and apprehension of IAs.

**ENVIRONMENTAL
IMPACTS OF THE
PROPOSED
ACTION:**

The Proposed Action Alternative would potentially result in permanent impacts of up to 45 acres. However, approximately 17 acres of the project corridor have been previously disturbed from the construction of the existing PVBs. Direct impacts to vegetation, wildlife, unique and sensitive areas, and aesthetics would be expected. Wildlife movement across the international boundary would be impeded within the corridor, but these impacts would be minimal to local or regional wildlife population. The viewshed of the OPCNM would be impacted by the construction of the primary pedestrian fence; however, once completed, the primary pedestrian fence would afford greater safety to park visitors and sensitive resources. Additionally, mitigation measures would be implemented (i.e., using subdued and non-reflective materials) to ensure impacts to aesthetics would not be considered significant. No significant impacts on any human or natural resources either locally or regionally would be expected upon implementation of the Proposed Action Alternative.

CONCLUSIONS:

Based upon the results of this EA, it has been concluded that the Proposed Action Alternative would not have a significant adverse effect on the environment, and no additional National Environmental Policy Act documentation is warranted.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	iii
 1.0 INTRODUCTION AND PURPOSE AND NEED.....	1-1
1.1 INTRODUCTION.....	1-1
1.2 HISTORY AND BACKGROUND	1-1
1.2.1 CBP History	1-1
1.2.2 CBP Strategic Intent and Priorities	1-2
1.2.3 Background	1-3
1.3 LOCATION OF THE PROPOSED PROJECT.....	1-3
1.4 PURPOSE AND NEED	1-3
1.5 APPLICABLE ENVIRONMENTAL STATUTES AND REGULATIONS	1-5
1.6 REPORT ORGANIZATION.....	1-6
 2.0 ALTERNATIVES.....	2-1
2.1 NO ACTION ALTERNATIVE	2-1
2.2 PROPOSED ACTION ALTERNATIVE	2-1
2.3 OTHER ALTERNATIVES EVALUATED BUT ELIMINATED FROM CONSIDERATION	2-4
2.3.1 Technology in Lieu of Tactical Infrastructure.....	2-4
2.4 CONSTRUCTION PERSONNEL AND EQUIPMENT	2-4
2.5 SUMMARY	2-5
 3.0 AFFECTED ENVIRONMENT	3-1
3.1 LAND USE	3-1
3.2 SOILS.....	3-2
3.3 BIOLOGICAL RESOURCES.....	3-2
3.3.1 Vegetation Communities	3-2
3.3.2 Wildlife	3-2
3.3.3 Non-Native and Invasive Species.....	3-3
3.4 UNIQUE AND SENSITIVE AREAS.....	3-3
3.5 WILDERNESS	3-5
3.6 PROTECTED SPECIES AND CRITICAL HABITATS	3-5
3.6.1 Federal	3-5
3.6.1.1 Sonoran Pronghorn	3-7
3.6.1.2 Lesser Long-nosed Bat.....	3-7
3.6.1.3 Acuña Cactus	3-9
3.6.2 State	3-9
3.6.3 Critical Habitat	3-10
3.7 CULTURAL RESOURCES	3-10
3.7.1 Cultural History	3-11
3.7.2 Previous Investigation	3-11
3.7.3 Current Investigation	3-11
3.8 AIR QUALITY	3-12
3.9 WATER RESOURCES	3-12
3.10 SOCIOECONOMICS	3-14
3.10.1 Environmental Justice	3-15

3.10.2	Protection of Children	3-15
3.11	NOISE	3-16
3.12	AESTHETICS.....	3-17
3.13	WASTE	3-18
3.13.1	Hazardous Waste	3-18
3.13.2	Unregulated Solid Waste.....	3-18
4.0	ENVIRONMENTAL CONSEQUENCES	4-1
4.1	LAND USE	4-2
4.1.1	Alternative 1: No Action Alternative	4-2
4.1.2	Alternative 2: Proposed Action Alternative	4-2
4.2	SOILS.....	4-3
4.2.1	Alternative 1: No Action Alternative	4-3
4.2.2	Alternative 2: Proposed Action Alternative	4-3
4.3	BIOLOGICAL RESOURCES.....	4-4
4.3.1	Vegetation Communities	4-4
4.3.1.1	Alternative 1: No Action Alternative	4-4
4.3.1.2	Alternative 2: Proposed Action Alternative	4-4
4.3.2	Wildlife	4-5
4.3.2.1	Alternative 1: No Action Alternative	4-5
4.3.2.2	Alternative 2: Proposed Action Alternative	4-5
4.3.3	Non-native and invasive species	4-6
4.3.3.1	Alternative 1: No Action Alternative	4-6
4.3.3.2	Alternative 2: Proposed Action Alternative	4-6
4.4	UNIQUE AND SENSITIVE AREAS.....	4-7
4.4.1	Alternative 1: No Action Alternative	4-7
4.4.2	Alternative 2: Proposed Action Alternative	4-7
4.5	WILDERNESS	4-8
4.5.1	Alternative 1: No Action Alternative	4-8
4.5.2	Alternative 2: Proposed Action Alternative	4-8
4.6	PROTECTED SPECIES AND CRITICAL HABITAT	4-10
4.6.1	Alternative 1: No Action Alternative	4-10
4.6.2	Alternative 2: Proposed Action Alternative	4-10
4.6.3	Critical habitat.....	4-12
4.7	CULTURAL RESOURCES	4-13
4.7.1	Alternative 1: No Action Alternative	4-13
4.7.2	Alternative 2: Proposed Action Alternative	4-13
4.8	AIR QUALITY	4-13
4.8.1	Alternative 1: No Action Alternative	4-13
4.8.2	Alternative 2: Proposed Action Alternative	4-14
4.9	WATER RESOURCES	4-15
4.9.1	Alternative 1: No Action Alternative	4-15
4.9.2	Alternative 2: Proposed Action Alternative	4-15
4.10	SOCIOECONOMICS	4-17
4.10.1	Alternative 1: No Action Alternative	4-17
4.10.2	Alternative 2: Proposed Action Alternative	4-17
4.11	NOISE	4-18
4.11.1	Alternative 1: No Action Alternative	4-18
4.11.2	Alternative 2: Proposed Action Alternative	4-18
4.12	AESTHETICS.....	4-18

4.12.1	Alternative 1: No Action Alternative	4-18
4.12.2	Alternative 2: Proposed Action Alternative	4-19
4.13	HAZARDOUS AND SOLID WASTE.....	4-19
4.13.1	Alternative 1: No Action Alternative	4-19
4.13.2	Alternative 2: Proposed Action Alternative	4-19
5.0	CUMULATIVE IMPACTS	5-1
6.0	MITIGATION MEASURES.....	6-1
6.1	GENERAL CONSTRUCTION ACTIVITIES.....	6-1
6.2	SOILS.....	6-2
6.3	BIOLOGICAL RESOURCES.....	6-2
6.4	CULTURAL RESOURCES	6-3
6.5	WATER RESOURCES	6-4
6.6	AIR QUALITY	6-4
6.7	NOISE	6-4
6.8	AESTHETICS.....	6-5
7.0	PUBLIC INVOLVEMENT	7-1
7.1	AGENCY COORDINATION	7-1
7.2	PUBLIC REVIEW	7-1
8.0	REFERENCES.....	8-1
9.0	LIST OF PREPARERS	9-1
10.0	ACRONYMS	10-1

LIST OF FIGURES

Figure 1-1. Vicinity Map	1-4
Figure 2-1. Proposed Action Alternative	2-2
Figure 3-1. Range of Sonoran Pronghorn.....	3-8

LIST OF TABLES

Table 2-1. Relationship between Purpose and Need and Project	2-5
Table 2-2. Summary Matrix.....	2-6
Table 3-1. Federally Listed and Proposed Species Potentially Occurring Within Pima County, Arizona.....	3-6
Table 4-1. Total Air Emissions (tons/year) from Construction Activities	4-14
Table 5-1. Recently Completed or Reasonably Foreseeable USBP projects in Ajo Station's AO	5-2

LIST OF PHOTOGRAPHS

Photograph 3-1. Trails and trash left by IAs near Lukeville, Arizona POE.....	3-17
Photograph 3-2. View of Sonoyta, Mexico residential areas from U.S. Border near Lukeville, Arizona	3-17
Photograph 3-3. Lukeville, Arizona-Sonoyta, Mexico POE.....	3-17

LIST OF EXHIBITS

Exhibit 2-1. Example of Mesh Fence Design	2-3
Exhibit 4-1. Schematic Representation of View from South Puerto Blanco Road Facing Southwest	4-9
Exhibit 4-2. Schematic Representation of View from South Puerto Blanco Road Facing Southeast.....	4-9

LIST OF APPENDICES

Appendix A. March 2006 Memorandum of Understanding
Appendix B. List of State and Federal Protected Species for Pima County
Appendix C. Correspondence
Appendix D. Air Quality Calculations

SECTION 1.0
INTRODUCTION AND PURPOSE AND NEED

1.0 INTRODUCTION AND PURPOSE AND NEED

1.1 INTRODUCTION

This Environmental Assessment (EA) addresses the potential effects, beneficial and adverse, of the proposed installation of 5.2 miles of primary pedestrian fence near Lukeville, Arizona. The action is proposed by United States (U.S.) Border Patrol (USBP) Tucson Sector and would occur in the Ajo Station's Area of Operation (AO). This EA is tiered from the 2001 Supplemental Programmatic Environmental Impact Statement (SPEIS) for Immigration and Naturalization Service (INS) and Joint Task Force 6 (JTF-6) Activities along the U.S.-Mexico Border (INS 2001). The SPEIS was developed in an attempt to provide the public with USBP's assessment of impacts as they relate to potential future infrastructure projects. Mentioned in the SPEIS is the potential to construct fence, roads, and other infrastructure along the U.S.-Mexico border including Arizona. In addition, information was gleaned from and incorporated by reference from the National Park Service (NPS), Organ Pipe Cactus National Monument (OPCNM) Finding of No Significant Impact (FONSI) and Final EA for the Proposed Permanent Vehicle Barriers (PVB) December 2003 (NPS 2003). The OPCNM Final EA addressed the proposed construction of approximately 30 miles of PVB along OPCNM's U.S.-Mexico border.

This EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) Regulations implementing NEPA (Title 40 of the U.S. Code of Federal Regulations [CFR], Parts 1500-1508), and Department of Homeland Security (DHS) Management Directive 5100.1, which is the Environmental Planning Program Directive that outlines DHS's procedures for the implementation of NEPA.

1.2 HISTORY AND BACKGROUND

1.2.1 CBP History

In 1924, Congress created USBP to serve as the law enforcement entity of INS, which it did until November 25, 2002. With the passage of the Homeland Security Act of 2002 (Public Law 107-296), DHS was established to reorganize Federal law enforcement and border protection agencies into a single department. USBP was officially transferred into the Office of Border Patrol, under DHS, U.S. Customs and Border Protection (CBP), on March 1, 2003.

1.2.2 CBP Strategic Intent and Priorities

The priority mission of CBP is to prevent terrorists and terrorist weapons from entering the U.S. This priority mission involves maintaining a diverse, multi-layered approach, which includes improving security at the international borders and ports of entry (POE). It also extends the physical zone of security beyond the Nation's physical borders so that U.S. borders are the last line of defense, not the first (CBP 2003). As part of this mission, CBP has implemented its *Comprehensive Strategy to Address the Threat of Nuclear and Radiological Terrorism* to identify and seize terrorists' assets and funding sources and enhance the support infrastructure to further develop targets and analyses.

In addition to carrying out its priority mission, CBP must fulfill its traditional missions including:

- controlling the sovereign borders of the U.S. by apprehending individuals attempting to enter the U.S. illegally;
- stemming the flow of illegal drugs and other contraband;
- protecting the Nation's agriculture and economic interest from harmful pests and diseases;
- facilitating international trade;
- collecting import duties; and
- enforcing U.S. trade, immigration and other laws of the U.S. at and beyond the Nation's borders (CBP 2003).

Hereinafter, any individual, including terrorists and smugglers, who attempt to illegally enter the U.S. between POEs is referred to as an illegal alien (IA).

The mission of USBP is to strengthen the U.S. borders to prevent the entry of IAs, terrorist weapons, narcotics and other contraband. The principle objective of USBP is to apply appropriate levels of USBP personnel, intelligence, technology, and infrastructure resources to increase the level of operational effectiveness until the likelihood of apprehension is sufficient to be an effective deterrent that conveys an absolute certainty of detection and apprehension.

During recent years, USBP has significantly increased its emphasis on deterrence. Deterrence is achieved only when USBP has the ability to create and convey the immediate, credible, and absolute certainty of detection and apprehension. As such, tactical infrastructure components, such as pedestrian barriers and roads are a critical element. Trends such as the continued urbanization and industrialization of the immediate border, the recognition of environmental

preservation concerns, and the increase of criminal trans-boundary activities (including trafficking in people, drugs, and terrorism efforts) continue as a border enforcement challenge and increase the need for tactical infrastructure along the international borders.

1.2.3 Background

NPS issued a Final EA and FONSI in 2003, which addressed the construction of PVBs along the southern boundary of OPCNM (NPS 2003). The PVBs extend across the entire southern boundary of OPCNM along the U.S.-Mexico border except over Sonoyta Hill. All of the construction activities completed while building the PVBs were located within the 60-foot Roosevelt Reservation. To date, the entire 30 miles of planned PVBs have been completed by NPS. The PVBs constructed by NPS have served effectively and efficiently in deterring and hindering illegal vehicle traffic on OPCNM; however, PVBs do not deter pedestrian traffic.

1.3 LOCATION OF THE PROPOSED PROJECT

The general location of the proposed project was previously discussed in the December 2003 Final EA (NPS 2003) and is incorporated herein by reference. The project corridor is located along the U.S.-Mexico border near Lukeville, Arizona (Figure 1-1).

1.4 PURPOSE AND NEED

The purpose and need for the NPS 2003 Final EA was to prevent illegal vehicle traffic from degrading the biological resources of OPCNM as well as to protect the health and safety of Federal staff and visitors. The construction of the PVBs met the stated purpose and need of the NPS 2003 Final EA. However, since the completion of the NPS 2003 Final EA, shifts in IA traffic and recent Federal legislation has required changes in the designs of border tactical infrastructure. The purpose of the proposed primary pedestrian fence is to help CBP agents and officers gain effective control of our nation's borders.



Figure 1-1: Vicinity Map



August 2007

BW1 FOIA CBP 006264

CBP is developing and deploying the appropriate mix of technology, infrastructure, and personnel. In some locations, primary pedestrian fence is a critical element of border security. In alignment with Federal mandates USBP has identified this area of the border as a location where primary pedestrian fence would contribute significantly to their priority homeland security mission. The need for the proposed action is to meet USBP operational requirements; provide a safer environment for USBP agents, NPS staff, and general public; deter IAs by constructing an impediment to northward movement into the U.S.; enhance the response time of USBP agents; and meet the mandates of Federal legislation (i.e., Secure Fence Act of 2006 and 2007 Department of Homeland Security [DHS] Appropriations Act [HR 5441]).

1.5 APPLICABLE ENVIRONMENTAL STATUTES AND REGULATIONS

The applicable environmental statutes and regulations for this EA are similar to those of the December 2003 Final EA (NPS 2003) and are hereby incorporated by reference. In summary, this EA was prepared in accordance with, but not limited to the NEPA of 1969; Endangered Species Act (ESA) of 1973, as amended; the National Historic Preservation Act (NHPA) of 1966, as amended; and the Archeological and Historical Preservation Act of 1974, as amended. In addition to these environmental statutes and regulations this EA is guided by Federal legislation, DHS's Management Directive 5100.1, Clean Air Act (CAA), Clean Water Act (CWA), Noise Control Act, Resource Conservation and Recovery Act, and Toxic Substances Control Act. Executive Orders (E.O.) bearing on the proposed action include E.O. 11988 (*Floodplain Management*), E.O. 11990 (*Protection of Wetlands*), E.O. 12088 (*Federal Compliance with Pollution Control Standards*), E.O. 12580 (*Superfund Implementation*), E.O. 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*), E.O. 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*), E.O. 13101 (*Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*), E.O. 13123 (*Greening the Government Through Efficient Energy Management*), E.O. 13148 (*Greening the Government Through Leadership in Environmental Management*), E.O. 13175 (*Consultation and Coordination with Indian Tribal Governments*), and E.O. 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*).

1.6 REPORT ORGANIZATION

This report is organized into 10 major sections including this introduction. Section 2.0 describes all alternatives considered for the project. Section 3.0 discusses the environmental features potentially affected by the project, while Section 4.0 discusses the environmental consequences for each of the viable alternatives. Cumulative impacts are discussed in Section 5.0, mitigation measures are discussed in Section 6.0, and public comments and the notice of Availability (NOA) are presented in Section 7.0. Sections 8.0, 9.0, and 10.0 present a list of the references cited in the document, a list of acronyms and abbreviations, and a list of the persons involved in the preparation of this document. Appendix A contains the March 2006 Memorandum of Understanding while Appendix B is a list of state and Federal protected species for Pima County. Appendix C contains correspondence that was sent and received during the preparation of this EA. Appendix D contains the air quality calculations for the Proposed Action Alternative.

SECTION 2.0
ALTERNATIVES

2.0 ALTERNATIVES

Three alternatives were identified and considered during the planning stages of the proposed project: No Action Alternative, Proposed Action Alternative, and Technology in Lieu of Tactical Infrastructure Alternative. The Proposed Action Alternative and Preferred Action Alternative are synonymous terms; however, for the purposes of this EA they will be referred to as the Proposed Action Alternative. The following paragraphs describe the alternatives considered.

2.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, no construction activities would occur. The existing PVBs would continue to be maintained by NPS. The No Action Alternative does not meet the project's purpose and need, but has been carried forward for analysis, as required by CEQ regulations. The No Action Alternative will form the basis for evaluation of other action alternatives.

2.2 PROPOSED ACTION ALTERNATIVE

Primary pedestrian fencing has proved invaluable in denying quick access to concealment and escape opportunities for IAs inside the U.S. It performs a dual role in border security by acting as a visual deterrent and a formidable physical barrier, impeding IAs and increasing the window of time USBP agents have to respond to IAs attempting to breach the U.S.-Mexico border. The Proposed Action Alternative includes the construction and maintenance 5.2 miles of primary pedestrian fence along the U.S.-Mexico border near Lukeville, Arizona (Figure 2-1). The project corridor would extend 2.1 miles to the west and 3.1 miles to the east of the Lukeville POE. Approximately 5.2 miles of primary pedestrian fence would be constructed. Construction activities would remain within the 60-foot Roosevelt Reservation with the exception of the westernmost 0.65 miles. The westernmost 0.65 miles, which would be built over Sonoyta Hill, requires a construction footprint of 150 feet.

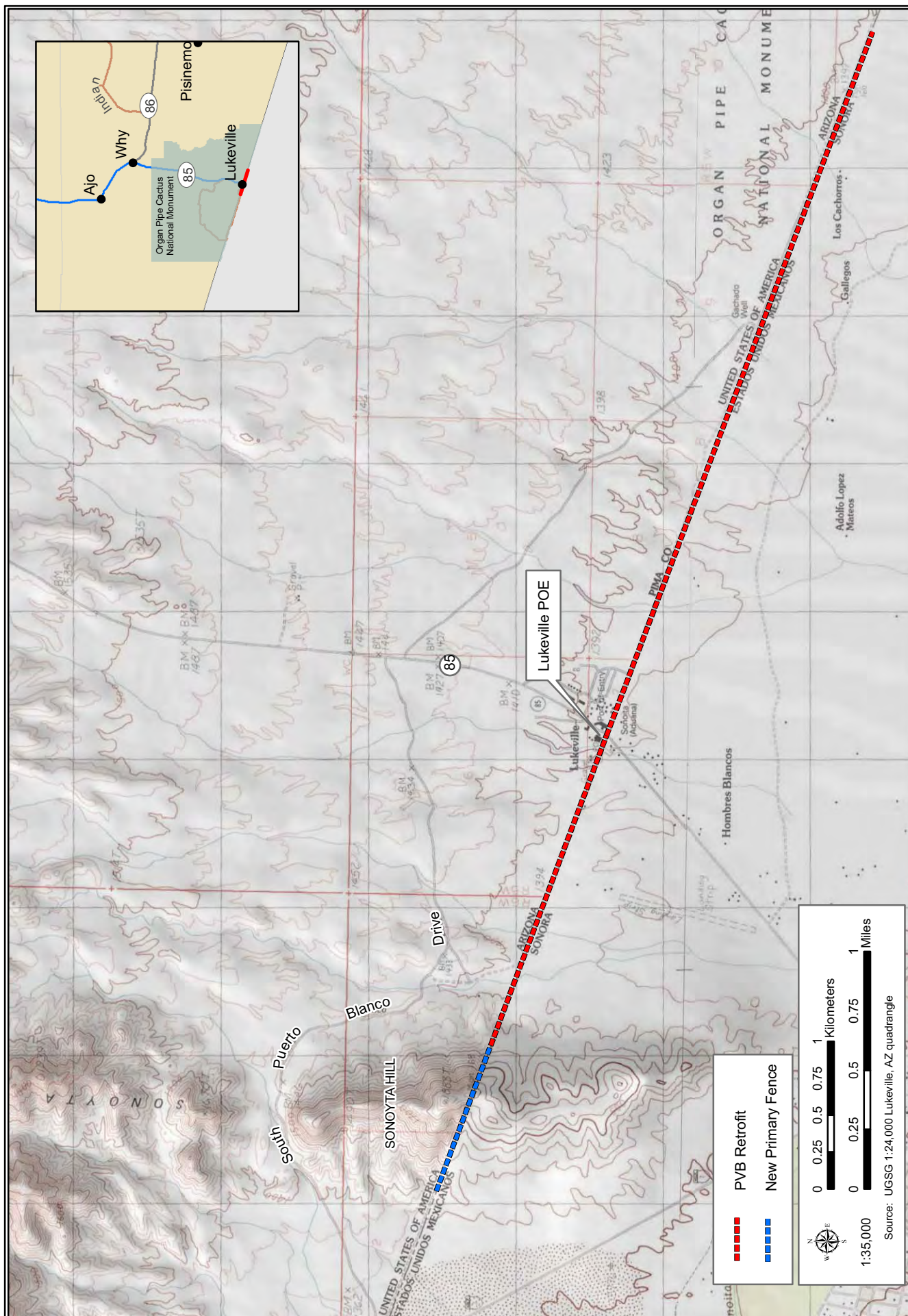
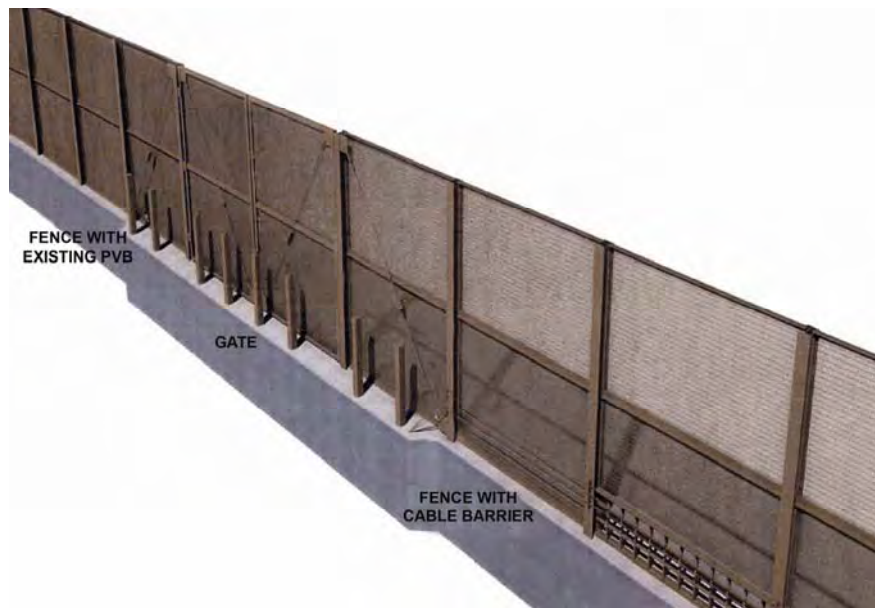


Figure 2-1: Proposed Action Alternative

The primary pedestrian fence would be installed approximately 3 feet north of the existing PVBs with the exception of the Sonoyta Hill portion. Due to the lack of PVBs in this area, the fence would be constructed approximately 3 feet north of the U.S.-Mexico border. An example of the mesh fence design is shown in Exhibit 2-1. This design would be used and would meet design performance measures, which dictate that the fence must:

- extend 15 to 18 feet above ground and 3 to 6 feet below ground;
- be capable of withstanding a crash of a 10,000-pound (gross weight) vehicle traveling at 40 miles per hour;
- be semi-transparent, as dictated by operational need;
- be vandal resistant;
- be designed to survive the extreme climate changes of a desert environment;
- not impede the natural flow of water; and
- allow for maintenance access to border monuments as required by the U.S. Section, International Boundary and Water Commission.

Exhibit 2-1. Example of Mesh Fence Design



Furthermore, in most washes or arroyos, the primary pedestrian fence would be designed and constructed to ensure proper conveyance of floodwaters and to eliminate the potential to cause backwater flooding on either side of the U.S.-Mexico border. CBP will remove debris from the

fence within washes/arroyos immediately after rain events to ensure that no backwater flooding occurs.

Staging areas and turnarounds would be located within the Roosevelt Reservation. Construction access would include the use of the existing patrol road adjacent to the U.S.-Mexico border as well as South Puerto Blanco Road in order to construct the primary pedestrian fence and road up and over Sonoyta Hill. Additionally, the road, existing PVBs, and primary pedestrian fence would be maintained by CBP to ensure the integrity of the road, PVBs, and primary pedestrian fence is not compromised.

2.3 OTHER ALTERNATIVES EVALUATED BUT ELIMINATED FROM CONSIDERATION

One other alternative was evaluated but eliminated from further consideration due to impediments to construction or failure to meet the purpose and need for the project. This alternative is discussed in the following subsection.

2.3.1 Technology in Lieu of Tactical Infrastructure

Under this alternative, USBP would use radar, cameras, lights, and other technology to identify illegal border crossings. The use of technology is a critical component of *SBI_{net}* and an effective force multiplier that allows USBP to monitor large areas and deploy agents to where they will be most effective. However, in the more populated areas within the Tucson Sector, physical barriers represent the most effective means to control illegal entry into the U.S. The use of technology alone would not provide a practical solution to achieving effective control of the border in USBP Tucson Sector. Therefore, this alternative would not meet the purpose and need as described in Section 1.4 and will not be carried forward for further analysis.

2.4 CONSTRUCTION PERSONNEL AND EQUIPMENT

Private contractors would complete the proposed construction and installation of the infrastructure components. All project personnel will not exceed a speed limit of 25 miles per hour within the OPCNM during construction and maintenance related activities. The project is expected to be completed by December 2008. Equipment staging would be located within previously disturbed areas to minimize potential effects to the environment. The equipment

anticipated to be used during the construction includes a backhoe, trencher, auger, crane, bulldozer, front-end loader, flatbed truck, water truck and roller/compactor.

2.5 SUMMARY

The two alternatives carried forward for analysis are the No Action Alternative and Proposed Action Alternative. An alternative matrix (Table 2-1) compares the two alternatives relative to the purpose and need. Table 2-2 presents a summary matrix of the impacts from the three alternatives analyzed and how they affect the environmental resources in the region.

Table 2-1. Relationship between Purpose and Need and Project

Requirements	Alternative 1: No Action Alternative	Alternative 2: Proposed Action Alternative
Provide a safer work environment for the USBP agents	PARTIALLY	YES
Deter illegal pedestrian traffic by constructing an impediment to northward movement	NO	YES
Satisfy Federal legislation	NO	YES

Table 2-2. Summary Matrix

Affected Environment	No Action Alternative	Proposed Action Alternative
Land Use	No impacts are expected.	Approximately 7 acres (0.65 mile X 90 feet) of NPS lands over Sonoyta Hill would be used as USBP infrastructure. The lands would remain as NPS lands; however, USBP would be allowed use of the 7 acres as articulated through a Special Use Permit. The remainder of the project corridor is within the Roosevelt Reservation; therefore, land use would not change in these areas. No significant impacts are expected as the indirect beneficial impacts would greatly outweigh the minor direct impacts. No significant impacts are expected as the indirect beneficial impacts would greatly outweigh the minor direct impacts.
Soils	No impacts are expected.	Up to 45 acres of soils could be permanently impacted. No prime farmlands would be impacted. Indirect impacts could occur to areas outside the project corridor. No significant impacts would occur as a result of the Proposed Action Alternative.
Vegetation	No impacts are expected.	Up to 28 acres of vegetation would be permanently altered. The remaining 17 acres of the total footprint of the project corridor are previously disturbed. The 28 acres that would be affected are comprised of vegetation communities that are regionally and locally common. Thus, no significant impacts would be expected. Indirect impacts could occur to areas outside the project corridor.
Wildlife	No impacts are expected.	If implemented, approximately 45 acres of wildlife habitat could be impacted; however, approximately 17 acres within the project corridor is previously disturbed from the construction of the existing PVBs. Therefore, no significant impacts are expected. Wildlife movement across the international boundary would be impeded within the corridor; however, these impacts would be minimal to wildlife, locally or regionally. Indirect impacts could occur to areas outside the project corridor.
Unique and Sensitive Areas	No impacts are expected.	The project footprint is primarily located within the Roosevelt Reservation. The viewshed of the OPCNM would be impacted by the construction of the primary pedestrian fence; however, once completed, the primary pedestrian fence will afford greater safety to park visitors and sensitive resources. Indirect impacts could occur as construction is ongoing or by IAs outside of the corridor if they try to circumvent the proposed infrastructure.
Wilderness	No impacts are expected	No direct impacts are expected. Indirect impacts could occur if IAs attempt to circumvent the proposed infrastructure. USBP would use the primary pedestrian fence as a force multiplier, which would all USBP to deploy agents to areas lacking infrastructure, thus, minimizing any indirect impacts.

Table 2-2, continued

Affected Environment	No Action Alternative	Proposed Action Alternative
Protected Species	No impacts are expected.	Although approximately 17 acres of the total project footprint (45 acres) have been previously disturbed due to the construction of the existing PVBs, food sources (columnar cacti) for the lesser long-nosed bat (<i>Leptonycteris curasoae yerbabuenae</i>) and habitat for the Sonoran pronghorn (<i>Antilocapra americana sonoriensis</i>) would be impacted. The Proposed Action Alternative may affect and is likely to adversely affect these two species. Section 7 consultation is on-going with the U.S. Fish and Wildlife Service (USFWS); conservation measures have been identified and would be implemented to off-set impacts to the bat and pronghorn. Indirect impacts could occur to habitat or species outside of the corridor if IAs attempt to circumvent the proposed infrastructure.
Cultural Resources	No impacts are expected.	No cultural resources would be impacted either directly or indirectly.
Air Quality	No impacts are expected.	Pima County is in attainment for all criteria pollutants. Minor, temporary impacts would occur during construction but would cease upon completion of the Proposed Action Alternative.
Water Resources	No impacts are expected.	Up to 11.4 acre-feet of groundwater would be used for dust suppression and mixing concrete. All water will be trucked into the project site from sources north of the OPCNM (i.e., Why, Ajo, or Gila Bend). No deficit would occur to the region's available groundwater sources; therefore, no significant impacts to water resources would occur.
Socioeconomics	No impacts are expected.	Minor, temporary impacts could occur. Indirect beneficial impacts would occur within the region due to the reduction of IA foot traffic and the associated societal cost.
Noise	No impacts are expected.	The project corridor is located adjacent to the busy Lukeville POE; therefore, the impacts would be minimal and temporary. No significant impacts to ambient noise levels would occur.
Aesthetics	No impacts are expected.	The project footprint is located within or adjacent to previously disturbed areas. The visibility of the primary pedestrian fence from within the OPCNM would have minimal adverse impacts; however, the beneficial impacts from the reduction of IAs and associated trash would be expected to outweigh any adverse impacts. No significant impacts would occur. Indirect impacts could occur outside of the project corridor.

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 3.0
AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

In accordance with CEQ regulations (40 CFR § 1502.15), this chapter of the EA describes the baseline environment of the area(s) that would be affected by the viable alternatives under consideration. Data and analyses are commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. For those resources that have not changed, or where updates were not required, the discussions presented in the NPS 2003 Final EA are incorporated by reference (NPS 2003). Each of these resources is identified as such.

Resources such as prime farmlands, geology, communications, climate, and Wild and Scenic Rivers would not be impacted by this project and, thus, will not be evaluated in this EA for the following reasons:

- Prime Farmlands: There are no prime or unique farmlands in the project area.
- Geology: The construction activities proposed for this project do not include practices that would alter the geology of the area. These activities would result in negligible and localized effects to geological features, primarily due to the construction of concrete fence foundations and minimal cut and fill activities over Sonoyta Hill.
- Communications: The project would not affect communications systems in the area.
- Climate: The project would not affect nor be affected by the climate.
- Wild and Scenic Rivers: The proposed project would not affect any designated Wild and Scenic Rivers because no rivers designated as such are located within the project corridor.

3.1 LAND USE

This section was discussed in the 2003 Final EA and is incorporated herein by reference (NPS 2003). OPCNM is used for public use and recreation, species conservation, and as an International Biosphere Reserve. However, the project corridor is located within the Roosevelt Reservation along the U.S.-Mexico border. In March 2006, a Memorandum of Understanding (MOU) was established between DHS, U.S. Department of the Interior, and U.S. Department of Agriculture stating that all parties recognize that CBP operation and construction within the Roosevelt Reservation is the intended land use of the reservation (see Appendix A). Thus, land use within the majority of the project corridor is USBP infrastructure and operations. The

construction footprint over Sonoyta Hill and the use of South Puerto Blanco Road are north of the 60-foot Roosevelt Reservation and would require the issuance of a Special Use Permit by the NPS.

3.2 SOILS

Soils found within the project corridor were previously discussed in the 2003 Final EA and are hereby incorporated by reference (NPS 2003). No prime farmlands are located in the project corridor. There are 7 soils series found within the project corridor, as follows:

- Antho fine sandy loam
- Gilman very fine sandy loam, saline
- Gunsight very gravelly loam, 2-15% slopes
- Harqua very gravelly loam, 0-3% slopes
- Harqua-Gunsight complex
- Lomitas very stony loam, 8-40% slopes
- Torrifluvents (wash beds)

3.3 BIOLOGICAL RESOURCES

3.3.1 Vegetation Communities

Vegetation communities within the project corridor were discussed in the 2003 NPS Final EA and are incorporated herein by reference (NPS 2003). In general, the dominant biotic community of OPCNM is the mixed Sonoran desertscrub. This community is predominantly composed of palo verde (*Cercidium* spp.), organ pipe cactus (*Stenocereus thurberi*), saguaro (*Carnegiea gigantea*), ocotillo (*Fouquieria splendens*), Sonora barrel cactus (*Ferocactus covillei*), California barrel cactus (*Ferocactus cylindraceus*), and brittlebush (*Encelia farinosa*) (INS 2001). The creosote-bursage vegetation community is the second most common vegetation community on OPCNM and is comprised of creosotebush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), and triangle-leaf bursage (*Ambrosia deltoidea*) (NPS 2003). Saltbush (*Atriplex* sp.) is common throughout most of the project corridor, especially east of the Lukeville POE (Baiza 2007).

3.3.2 Wildlife

A detailed discussion of wildlife resources was presented in the 2003 NPS Final EA and is incorporated herein by reference (NPS 2003). In summary, a large diversity of animal species

are known to occur on OPCNM; these species include 55 mammals, 277 bird species, 48 reptiles and amphibians, one fish and two invertebrates. Many of the wildlife species found on OPCNM are obligate desert species; however, the riparian habitat available at Quitobaquito and Aquajita Springs support some aquatic species such as the Sonoran toad (*Bufo alvarius*) and Quitobaquito pupfish (*Cyprinodon macularius*).

3.3.3 Non-Native and Invasive Species

Non-native vegetation was previously discussed in the 2003 Final EA and is incorporated herein by reference (NPS 2003). Although the OPCNM has a minimal amount of non-native or invasive species in relation to the overall habitat area, these species have become a major problem in certain areas. One such area is Quitobaquito Springs. The common non-native species observed on the OPCNM include buffelgrass (*Pennisetum ciliare*), blue panic (*Panicum antidotale*), and ice plants (*Mesembryanthemum* sp.). More specifically, the common non-native plant located in the project corridor is Bermuda grass (*Cynodon dactylon*) (Baiza 2007).

3.4 UNIQUE AND SENSITIVE AREAS

Southwestern Arizona has many unique and sensitive areas. Ongoing efforts by many government agencies, as well as private entities, have set aside areas for preservation. These areas are intended for use by the public in hopes of better understanding the myriad of biological and physical systems exhibited in their natural state. The unique or sensitive areas located within or near the project corridor are discussed below.

Organ Pipe Cactus National Monument

OPCNM was established in 1937 by President Franklin D. Roosevelt to “celebrate the life and landscape of the Sonoran desert” (Desert USA 2004a). In 1976, the United Nations designated OPCNM as an International Biosphere Reserve; it is an almost pristine example of the Sonoran Desert (NPS 2005). In OPCNM, three distinctive desert habitats (i.e., desert wilderness, vast mountain ranges, and plains) converge within 500 square miles, representing diverse plant communities (Desert USA 2004b). OPCNM encompasses approximately 330,000 acres, of which 312,600 acres, or 94 percent, are designated as Wilderness Area (NPS 2004). With 26 species of cacti, OPCNM exhibits an extraordinary collection of plants of the Sonoran desert, including the organ pipe cactus, which is rarely found in the U.S. (NPS 2004). Within the project corridor lies components (i.e., xeroriparian areas and rocky hillsides) that make up the Sonoran Desert

ecosystem for which the OPCNM was set aside to preserve. These components are common throughout the Sonoran Desert, although the concentrations of certain Sonoran Desert species (e.g., organ pipe, senita) are higher within the OPCNM.

Cabeza Prieta National Wildlife Refuge (CPNWR)

CPNWR shares 56 miles of border with Sonora, Mexico, and is home to seven mountain ranges (USFWS 2002, Defenders of Wildlife 2004). CPNWR, established in 1939 to conserve natural wildlife resources (e.g., desert bighorn sheep [*Ovis canadensis mexicana*]), occupies 860,010 acres and is the third largest National Wildlife Refuge in the contiguous 48 states (USFWS 2002, 2005). The Arizona Desert Wilderness Act of 1990 designated over 90 percent (approximately 799,000 acres) of CPNWR as Wilderness Area making it the largest Wilderness Area in the state of Arizona (Arizona Wilderness Coalition 2004). CPNWR supports more than 391 plant species and 300 wildlife species, including the Federally listed Sonoran pronghorn (*Antilocapra americana sonoriensis*) (USFWS 2002). The refuge is characterized by creosote and bursage flats, ocotillo, western honey mesquite (*Prosopis glandulosa*), palo verde, ironwood (*Olneya tesota*), and an abundance of cacti, including cholla (*Opuntia* spp.) and saguaro.

Barry M. Goldwater Range (BMGR)

BMGR, established in 1941 as an aerial gunnery and bombing range, lies to the north and west of the project corridor and CPNWR. BMGR is a 1.7 million acre military tactical aviation training area with 57,000 cubic miles of restricted airspace. It is the second largest range within Department of Defense, and at one time over 2.7 million acres were set aside for the range. Within the boundaries of BMGR, at least 100 important cultural resource sites have been identified, three BLM designated areas of critical environmental concern, and the Flat-tailed Horned Lizard Management Area (BMGR Visitor Information Brochure, n.d.). The “southern westernmost” boundary of BMGR shares approximately 37 miles with the U.S.-Mexico border (U.S. Department of Air Force *et al.* 2006).

The Tohono O’odham Nation

Tohono O’odham Nation (TON) is comprised of four non-contiguous areas (Inter Tribal Council of Arizona 2003). The largest of the four areas within TON is located east of the project corridor. This area stretches 70 miles across the U.S.-Mexico border and occupies 2,773,357 acres. The total population of TON was 23,750 in 1999 (Arizona Department of Commerce 2004). The town

of Sells serves as the Nation's capital and other small, scattered villages are located within TON. Members of the Nation live in both the U.S. and Mexico.

3.5 WILDERNESS

The Wilderness Act of 1964 allowed for the establishment of a National Wilderness Preservation System. The act allows for the establishment of wilderness on Federally owned lands designated by Congress. Areas designated as wilderness are to be administered for the use and enjoyment of the public in such a manner as to leave the lands undisturbed for future use and enjoyment as wilderness, and to provide protection of these areas, and the preservation of their wilderness character. To maintain the wilderness characteristics of designated wilderness areas certain activities are prohibited and include permanent roads (except as necessary to meet minimum requirements for administration of the area, including measures required for emergencies involving human health and safety), temporary roads, motor vehicles, motorized equipment, motorboats, landing of aircraft, any form of mechanical transport, and structures (16 United States Code [U.S.C.] 1121 [note], 1131-1136).

In furtherance of the purpose of the Wilderness Act of 1964, the Arizona Desert Wilderness Act of 1990 was established to provide for the designation of certain public lands as wilderness in the state of Arizona (Public Law 88-577, found in 16 U.S.C. 1131-1136). There are no designated wilderness areas within the project corridor. However, most of OPCNM beginning 150 feet north of South Puerto Blanco Road is designated as Wilderness.

3.6 PROTECTED SPECIES AND CRITICAL HABITATS

3.6.1 Federal

An in-depth discussion of this resource was presented in the 2003 NPS Final EA and is incorporated herein by reference (NPS 2003). Within Pima County, 13 species are listed as Federally endangered, two are Federally threatened, one has been proposed for endangered status and three for candidate species (Table 3-1). Not all of these species occur within the vicinity of the project corridor; however, several have the potential to occur within or near the project corridor. These include the lesser long-nosed bat, Sonoran pronghorn and the Acuna cactus (*Echinomastus erectocentrus* var. *acuñensis*).

Table 3-1. Federally Listed and Proposed Species Potentially Occurring Within Pima County, Arizona

Common/Scientific Name	Federal/State Status	Habitat	Potential to Occur within or near Project Corridor
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	Candidate	Large blocks of riparian woods.	No – No suitable habitat.
Masked bobwhite (<i>Colinus virginianus ridgewayi</i>)	Endangered	Desert grasslands with diversity of dense native grasses, forbs, and brush.	No – Presently only known to occur on Buenos Aires NWR.
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	Endangered	Cottonwood/willow and tamarisk vegetation communities along river and streams.	No – No suitable habitat.
California brown pelican (<i>Pelecanus occidentalis californicus</i>)	Endangered	Coastal lands and islands, also found around lakes and rivers inland.	No – No suitable habitat.
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	Threatened	Nests in canyons and dense forests with multi-layered foliage structure.	No – No suitable habitat.
Sonoran pronghorn (<i>Antilocapra americana sonoriensis</i>)	Endangered	Broad intermountain alluvial valleys with creosote-bursage and palo verde-mixed cacti associations. Current distribution known to occur on the CPNWR.	Yes- Species present on CPNWR and OPCNM.
Ocelot (<i>Leopardus pardalis</i>)	Endangered	Dense, thorny chaparral communities and cedar breaks.	No – No suitable habitat.
Lesser long-nosed bat (<i>Leptonycteris curasoae yerbabuenae</i>)	Endangered	Desertscrub habitat with agave and columnar cacti present as food plants.	Yes – Potential foraging habitat present.
Jaguar (<i>Panthera onca</i>)	Endangered	Found in Sonoran desertscrub up through subalpine conifer forest.	No – Extirpated from the area.
Sonoyta mud turtle (<i>Kinosternon sonoriense longifemorale</i>)	Candidate	Occurs in pond and streams; however, it is restricted to Quitobaquito Springs and nearby stream habitat.	No – Known to occur at Quitobaquito Springs, but outside of project corridor.
Chiricahua leopard frog (<i>Rana chiricahuensis</i>)	Threatened	Streams, rivers, ponds, backwaters, and stock tanks that are mostly free from exotic species at elevations ranging from 1,200 to 4,000 feet.	No – No suitable habitat.
Quitobaquito pupfish (<i>Cyprinodon macularius</i>)	Endangered	Shallow springs, small streams, and marshes. Tolerant of saline and warm water.	No – Critical Habitat designated within the OPCNM at Quitobaquito Springs and Pond, but outside of the project corridor.
Gila chub (<i>Gila intermedia</i>)	Proposed Endangered	Pools, springs, cienegas, and streams within the Gila River system.	No – Known populations occur within the Gila River drainage.
Gila topminnow (<i>Poeciliopsis occidentalis occindentalis</i>)	Endangered	Small streams, springs, and cienegas within the Gila River system.	No – Known populations occur within the Gila River drainage.
Kearney blue star (<i>Amsonia kearneyana</i>)	Endangered	West-facing drainages in the Baboquivari mountains.	No –Project corridor west of Baboquivari Mountains.
Pima pineapple cactus (<i>Coryphantha scheeri</i> var. <i>robustispina</i>)	Endangered	Ridges in semi-desert grassland and alluvial fans in Sonoran desertscrub with elevation ranges from approximately 2,300 to 5,000 feet.	No – Known populations occur in east Pima County at high elevations.

Table 3-1, continued

Common/Scientific Name	Federal/State Status	Habitat	Potential to Occur within or near Project Corridor
Nichol Turk's head cactus (<i>Echinocactus horizonthalonius</i> var. <i>nicholii</i>)	Endangered	Unshaded microsites in Sonoran desertscrub on dissected limestone mountains.	No – Known populations occur in east Pima and south Pinal counties.
Huachuca water umbel (<i>Liaeopsis schaffneriana</i> var. <i>recurva</i>)	Endangered	Cienegas, perennial low gradient streams, wetlands.	No – Known populations found in San Pedro River Basin.
Acuña cactus (<i>Sclerocactus erectocentrus</i> Synonym: <i>Echinomastus erectocentrus</i> var. <i>acunensis</i>)	Candidate	Acuña cacti are found on granite substrates on rounded small hills at elevations ranging from 1,300-2,000 feet.	Yes – Potential to occur, known populations are located on OPCNM approximately 8 miles north of the U.S.-Mexico border.

Source: USFWS 2007.

3.6.1.1 Sonoran Pronghorn

The Sonoran pronghorn was listed as Federally endangered on March 11, 1967 (32 Federal Register [FR] 4001), and is currently recognized as one of five subspecies of pronghorn (USFWS 1998). Sonoran pronghorn range from the plains of central and western Sonora, Mexico north to southwestern Arizona (USFWS 2003). In Arizona, Sonoran pronghorn occur on the CPNWR, the BMGR, and OPCNM, from State Route 85 west to the Cabeza Prieta Mountains and from the vicinity of the Wellton-Mohawk Canal south to the U.S.-Mexico border (Figure 3-1). Although, the Sonoran pronghorn is known to inhabit the OPCNM west of State Route 85, the likelihood of encountering a Sonoran pronghorn within the project corridor is limited because Mexico Highway 2 is near the project corridor, the existing barbed wire fence, and human activity near Sonoyta, Mexico. All of these elements are considered an impediment to pronghorn movement (NPS 2003).

3.6.1.2 Lesser Long-nosed Bat

The lesser long-nosed bat was listed as endangered on September 30, 1988 (53 FR 38456). Lesser long-nosed bats are a nectar, pollen, and fruit eating species that migrates into southern New Mexico and Arizona seasonally from Mexico (Arizona Game and Fish Department [AGFD] 2003). Lesser long-nosed bats migrate starting in early April, apparently following the flowering of columnar cacti and desert agave (*Agave deserti simplex*), returning to Mexico during September (USFWS 1995). A total of 206 saguaro and 295 organ pipe cacti were observed within the survey corridor during the field surveys. It should be noted that over 85 percent of the columnar cacti observed within the project corridor were located within the 0.65 miles across Sonoyta Hill.

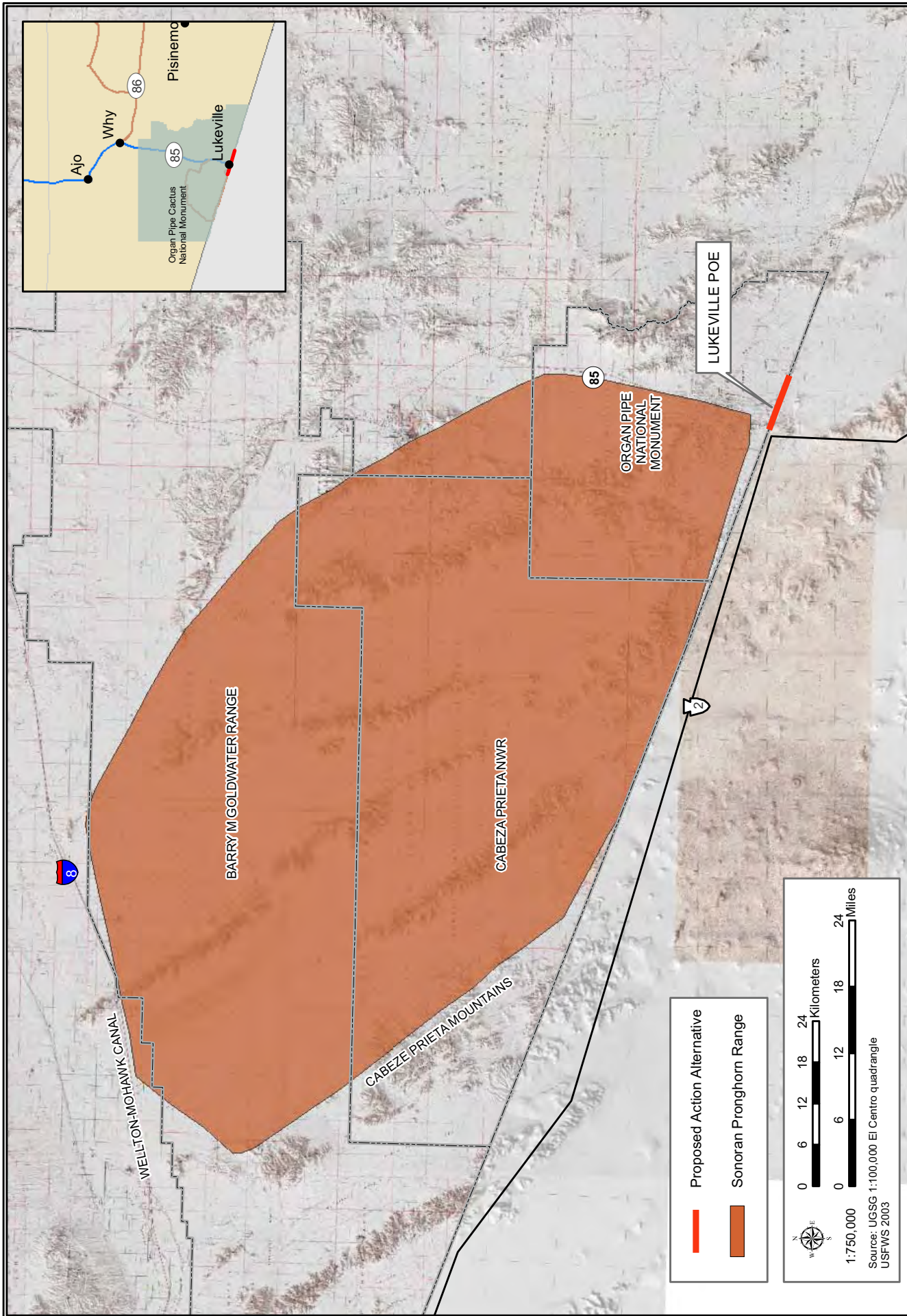


Figure 3-1: Sonoran Pronghorn Range within Project Corridor

The lesser long-nosed bat is found during the summer within desert grasslands and scrublands. The lesser long-nosed bat spends the day in caves and tunnels and forages at night upon plant nectar and pollen. This bat is an important pollinator of agave, and organ pipe and saguaro cacti (AGFD 2003). Roosting occurs in caves, abandoned buildings, and mines, which are usually located at the base of mountains where food sources are present (AGFD 2003). The lesser long-nosed bat is a seasonal resident of the OPCNM. Roosting sites are located in the OPCNM, but no known roosting sites occur within the project corridor (NPS 2003). The closest location of a known maternity colony to the project corridor would be approximately 15 miles (NPS 2003).

3.6.1.3 *Acuña Cactus*

The candidate status of *Acuña cactus* was last reviewed on May 11, 2005 (70 FR 24870). Seven populations of *Acuña cactus* are currently known to exist (Baiza 2007). The species is restricted to well drained knolls and gravel ridges between major washes on substrates, including granite hills and flats and bright red to white andesite, occurring from 1,300 to 2,000 feet in elevation (AGFD 2004). The species requires insect vectors for pollination, with polylectic bee species being the primary agent (AGFD 2004). Dispersal occurs primarily through gravity, and secondarily by wind, rain, and small insects.

As a candidate species, the *Acuña cactus* is not Federally protected, but is protected by the Arizona's Native Plant Law. Consideration is given to candidate species because of the potential for their listing during project activities, which could require USFWS Section 7 consultation. Although the *Acuña cactus* is known to inhabit the OPCNM, the known population is outside of the project corridor (approximately 8 miles north of U.S.-Mexico border) and no specimens were found within the project corridor during recent field surveys.

3.6.2 State

Suitable habitat for state sensitive species exists within the project corridor. All of the faunal species listed in Table 3-1 have a state-sensitive designation of Wildlife of Special Concern (WSC). State protected species (i.e., WSC) potentially found in the project corridor that are not Federally protected include the Great Plains narrow mouthed toad (*Gastrophryne olivacea*), cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*), Sonoran desert tortoise (*Gopherus agassizii*), California leaf-nosed bat (*Macrotus californicus*), Mexican rosy boa (*Charina trivirgata trivirgata*), and tropical kingbird (*Tyrannus melancholicus*). The Sonoran

desert tortoise and the Mexican rosy boa have the potential to exist near Sonoyta Hill within the project corridor. A complete list of state and Federal protected species for Pima County is included in Appendix B.

3.6.3 Critical Habitat

The Quitobaquito pupfish (*Cyprinodon macularius*) is the only species near the project corridor which has designated critical habitat. The critical habitat includes the Quitobaquito Springs and pond, and a 100-foot riparian buffer (USFWS 1986). Although the Quitobaquito pupfish critical habitat is located within the OPCNM, it is approximately 10.5 miles west of the project corridor.

3.7 CULTURAL RESOURCES

The NHPA of 1966 establishes the Federal government's policy to provide leadership in the preservation of historic properties and to administer Federally owned or controlled historic properties in a spirit of stewardship. Section 106 of the NHPA of 1966, as amended, requires Federal agencies to identify and assess the effects of their undertakings on cultural properties included in or eligible for inclusion in the National Register of Historic Places (NRHP), and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. Federal agencies must consult with the appropriate state and local officials, Indian tribes, applicants for Federal assistance, and members of the public and consider their views and concerns about historic preservation issues. The ACHP is authorized to promulgate such rules and regulations as it deems necessary to govern the implementation of Section 106 in its entirety. Those regulations are contained in the Code of Federal Regulations as 36 CFR Part 800, "Protection of Historic Properties".

Several other important pieces of legislation include the Archeological Resources Protection Act (ARPA), the Native American Graves Protection and Repatriation Act (NAGPRA), along with EO 13007 and EO 13175. ARPA strengthened the permitting procedures required for conducting archeological fieldwork on Federal lands, originally mandated by the Antiquities Act. It also established more rigorous fines and penalties for unauthorized excavation on Federal land. NAGPRA mandates Federal agencies to summarize, inventory, and repatriate cultural items in the possession of or control of the Federal agency to lineal descendants or to culturally affiliated Federally recognized Indian tribes. NAGPRA also requires that certain procedures be followed when there is an intentional excavation of or an inadvertent discovery of human remains. EO

13007 was issued on May 24, 1996 in order to facilitate the implementation of the American Indian Religious Freedom Act of 1978. It specifically charges Federal agencies to: (1) accommodate, to the extent practical, American Indian access to and use of sacred sites by religious practitioners; (2) avoid adversely affecting the physical integrity of sacred sites; and (3) to maintain the confidentiality of these sites. E.O. 13175 outlines the official U.S. government policy on consultation and coordination with American tribal governments. The order emphasizes formal recognition of the American Indian Tribes' status as...“domestic independent nations” that have entered into treaties with the U.S. guaranteeing their right to self-government. It stipulates that this consultation would be done on a “government to government basis.”

3.7.1 Cultural History

The archaeology of southern Arizona is relatively complex considering the various geographic and related cultural features. The OPCNM lies within a cultural area known as the Western Papaguería, which includes the region bounded by the Colorado River to the west, the Gila River to the north, the TON to the east, and Puerto Peñasco, Sonora, Mexico to the south (USFWS 2001). The cultural history of OPCNM can be divided into five periods:

Period	Dates
Preceramic	10,000 B.C. to A.D. 200
Ceramic	A.D. 200 to 1500
Early Historic	A.D. 1540 to 1848
Late Historic	A.D. 1848-1945
World War II and Cold War	A.D. 1945-1989

Source: USFWS 2001

3.7.2 Previous Investigation

A cultural resources survey was conducted in 2002 for the proposed construction of vehicle barriers along the U.S.-Mexico Border with the OPCNM. The survey corridor consisted of a 100 foot survey corridor along the international border within the OPCNM. The survey identified seven cultural resources that would be potentially impacted by the proposed vehicle barriers (NPS 2003).

3.7.3 Current Investigation

A site records check and cultural resources survey was conducted for the construction footprint of the Proposed Action Alternative. Three previously recorded historic objects, International Boundary Monuments 166, 167, and 168 were relocated during the current surveys. The International Boundary Monuments are listed on the NRHP and are considered significant

cultural resources. In addition, one previously recorded archaeological site, the Gachado Well and Line Camp (AZ C:1:17[ASM]) was also relocated and mapped during the current survey. This archaeological site is also listed on the NRHP and is considered a significant cultural resource. It should be noted that the Gachado Well and Line Camp, however, are not located within the 60-foot wide project corridor (Tuomey 2007).

3.8 AIR QUALITY

A detailed discussion of air quality conditions was presented in the 2003 NPS Final EA and is incorporated herein by reference (NPS 2003). Pima County is classified as being in attainment for all criteria pollutants under the National Ambient Air Quality Standards (NAAQS) (Pima County Department of Environmental Quality [PCDEQ] 2007).

According to 40 CFR 51.853(b), Federal actions require a Conformity Determination for each pollutant where the total of direct and indirect emissions in a non-attainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs 40 CFR 51.853(b)(1) or (2). If emissions from a Federal action do not exceed *de minimis* thresholds, and if the Federal action is not considered a regionally significant action, it is exempt from further conformity analysis. Therefore, because Pima County is in attainment for all criteria pollutants and because any alternative chosen would not exceed *de minimis* thresholds, a conformity analysis is not warranted (see Section 4.8.2).

3.9 WATER RESOURCES

A detailed discussion of this resource was presented in the 2003 NPS Final EA and is incorporated herein by reference (NPS 2003). Surface waters on OPCNM are limited as water availability varies seasonally with the majority of rainfall occurring in late summer. Section 404 of the CWA of 1977 (PL 95-217) authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill material into waters of the U.S., including wetlands. Any area that meets these criteria is commonly classified as "Waters of the U.S." Waters of the U.S. are further defined as all other waters such as intrastate lakes, rivers, streams, mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds, or impoundments of waters, tributaries of waters, and territorial seas. Activities that result in the dredging and/or filling of jurisdictional Waters of the U.S., including wetlands, are

regulated under Section 404 of the CWA. There are 16 intermittent streams which cross the project corridor; however, there are no perennial streams on OPCNM (NPS 2003). Wetlands are sparse on OPCNM and are limited to those areas with perennial water flow such as Quitobaquito Springs and Aquajito Springs. Both of these wetland areas are outside of the project corridor and would not be impacted (NPS 2003).

The project corridor is within the Western Mexican Drainage Basin (WMDB), which covers approximately 730 square miles in southern Arizona (INS 2001). The WMDB is similar in structure to the surrounding Basin and Range Province basins that are characterized by broad alluvium-filled valleys dissected by elongated mountain ranges. The Arizona Department of Water Resources (ADWR) estimated that in 1988 approximately 4.1 million acre-feet of groundwater was stored at a depth of 1,200 feet below the land surface (ADWR 2005, INS 2001). The annual recharge rate for the WMDB is 2,400 acre-feet per year (Leake 2005). In 1985, the ADWR estimated approximately 220 acre-feet of water was withdrawn from the WMDB (ADWR 2005). Since the recharge rate far exceeds the withdrawal rate, the WMDB currently provides ample groundwater supply for the current users.

The Lower Gila River Basin is situated north of the WMDB and OPCNM, within this basin, groundwater occurs in both floodplain and basin fill deposits. Streambed or floodplain deposits (consisting of sand, gravel, cobbles, and boulders) range from approximately 10 ft thick in the smaller drainages to as much as 110 ft thick in the Gila River floodplain (Babcock *et al.* 1947). The basin fill deposits may be divided into three separate units; the upper sandy unit, a middle fine-grained unit, and a lower coarse-grained unit (ADWR 2004). These units vary in thickness and may not be present at all locations. Groundwater recharge is from infiltration of rainfall runoff and underflow from groundwater basins that are hydraulically up gradient (Weist 1965). The groundwater for the construction of the proposed project would come from within this basin and more than likely from the town of Why or Ajo, Arizona. Because much of the land surrounding the towns of Ajo and Why is undeveloped public land and the need for water in the region is limited to the populated areas, the municipal wells often maintain high water levels (Tibbits 2004).

Pursuant to the National Flood Insurance Act of 1968, as amended (42 USC 4001 et seq.), and the Flood Disaster Protection Act of 1973 (P.L. 93-234, 87 Stat. 975), EO 11988, floodplain management requires that each Federal agency take actions to reduce the risk of flood loss,

minimize the impact of floods on human safety, health and welfare, and preserve the beneficial values which floodplains serve. EO 11988 requires that agencies evaluate the potential effects of actions within a floodplain and avoid floodplains unless the agency determines that there is no practicable alternative. Where the only practicable alternative is to site in a floodplain, a planning process is followed to ensure compliance with EO 11988. In summary, this process includes the following steps:

- determine whether or not the action is in the regulatory floodplain;
- conduct early public notice;
- identify and evaluate practicable alternatives, if any;
- identify the impact of the action;
- minimize the impact;
- reevaluate alternatives;
- present the findings and a public explanation; and
- implement the action.

This process is further outlined on the FEMA's Environmental Planning and Historic Preservation Program Web site (FEMA 2006). As a planning tool, the NEPA process incorporates floodplain management through analysis and public coordination, ensuring that the floodplain management planning process is adhered to. In addition, floodplains are managed at the local municipal level through the assistance and oversight of FEMA. According to FEMA Map Panel number 0007643050B, approximately 550 feet of the project corridor is located within the 100-year floodplain. This area is located immediately west of the Lukeville POE.

3.10 SOCIOECONOMICS

The socioeconomic environment for the Region of Influence (ROI), Pima County, was described in the 2003 Final EA and is herein incorporated by reference (NPS 2003). The population of Pima County in 2006 was estimated at 902,720 (U.S. Census Bureau 2005). The 2005 racial mix of Pima County was predominantly Caucasian (71.1 percent), followed by American Indians and Alaskan Natives (3.2 percent), African Americans (2.9 percent) and Asian persons (2.4 percent), with the remaining 20.4 percent of the population reporting other races (U.S. Census Bureau 2005). Persons of any race can claim Hispanic or Latino origin; 32 percent of the 2005 population of Pima County claim to be of Hispanic or Latino origin (U.S. Census Bureau 2005). The total number of jobs in Pima County in 2005 was 486,165, an increase of 26 percent over the number of jobs in 1995 (384,604; Bureau of Economic Analysis [BEA] 2005). The 2005 annual average unemployment rate for Pima County was 4.6 percent (Arizona Department of

Commerce 2005). This is lower than the 4.7 percent average annual unemployment rate for the state of Arizona (Arizona Department of Commerce 2005).

In 2005, Pima County had a per capita personal income (PCPI) of \$28,869. This PCPI ranked 2nd in the state of Arizona, and was 96 percent of the state average of \$30,019, and 84 percent of the National average of \$34,471. Total personal income (TPI) for Pima County in 2005 was \$26.7 billion.

3.10.1 Environmental Justice

E.O. 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations) was signed in February 1994. This order was intended to direct Federal agencies "...to make achieving environmental justice part of its mission by identifying and addressing... disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the [U.S.]..." To comply with the E.O., minority and poverty status in the vicinity of the project was examined to determine if any minority and/or low-income communities would potentially be disproportionately affected by implementation of the Proposed Action Alternative. Both low-income and minority populations are prevalent within the ROI. No residential areas exist in or near the project corridor in the U.S. However, developed areas (i.e., residential) are located adjacent to the project corridor in Sonoyta, Mexico.

3.10.2 Protection of Children

E.O. 13045 requires each Federal agency "to identify and assess environmental health risks and safety risks that may disproportionately affect children", and "ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks". This E.O. was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. The potential for impacts to the health and safety of children is greater where projects are located near residential areas. No residential areas exist in or near the project corridor in the U.S. However, developed areas (i.e., residential) are located adjacent to the project corridor in Sonoyta, Mexico.

3.11 NOISE

Noise is generally described as unwanted sound, which is identified by either objective effects (hearing loss, damage to structures, *etc.*) or subjective judgments (community annoyance). Sound is represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as a sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

Sound levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the day-night average sound level (DNL). DNL is the community noise measurement recommended by the U.S. Environmental Protection Agency (EPA) and has been adopted by most Federal agencies (EPA 1974). A-weighted decibels (dBA) are used to express the relative loudness of sounds in air as perceived by the human ear (Generac Power Systems, Inc. 2004). A-weighting is necessary to compare the effects of sounds on the human body, because the human ear is less sensitive at low frequencies than at high frequencies. A DNL of 65 dBA is most commonly used for noise planning purposes, and represents a compromise between community impact and the need for activities like construction. Areas exposed to DNL above 65 dBA are generally not considered suitable for residential use. A DNL of 55 dBA was identified by EPA as a level below which there are effectively no adverse impacts (EPA 1974).

Noise levels surrounding the project corridor are variable depending on the time of day and climatic conditions. The construction activities potentially causing elevated noise levels within the project corridor would include diesel and gasoline powered generators, trucks, and construction equipment.

Heavy duty trucks generate a noise level of approximately 90 dBA. Attenuation to 55 dBA occurs at a distance of approximately 2,600 feet depending on climatic conditions, topography, vegetation, and man-made barriers (Generac Power Systems, Inc. 2004). Noise levels for other types of construction equipment range from the loudest, tractors and backhoes (70 to 95 dBA) to pumps and generators (65 to 85 dBA) (Bugliarello *et al.* 1976). The Lukeville POE is a busy port with continuous traffic during its hours of operation. Therefore, noise generated near the POE is expected to be elevated due to the operation of the POE and associated traffic. The OPCNM and its associated Wilderness Area as well as the residences in Mexico are considered sensitive noise receptors and are located near the project corridor.

3.12 AESTHETICS

Aesthetic resources consist of the natural and man-made landscape features that appear indigenous to the area and give a particular environment its visual characteristics. The major visual characteristic of southern Arizona lies in its vast areas of naturally occurring landscape, tranquil dark skies, and scenic mountain ranges. The project corridor is located near Sonoyta, Mexico and the town of Lukeville, Arizona (i.e., Lukeville POE). OPCNM and its associated Wilderness Areas are located adjacent to the project corridor and are visited for recreational purposes, natural settings, and aesthetic values. However, the project corridor currently has a limited aesthetic value due to the disturbed nature of the project footprint, existing PVBs and chain link fence, illegal trails, trash (Photograph 3-1), Sonoyta, Mexico (Photograph 3-2), and Lukeville POE (Photograph 3-3).



Photograph 3-1. Trails and trash left by IAs near Lukeville, Arizona POE.



Photograph 3-2. View of Sonoyta, Mexico residential areas from U.S. Border near Lukeville, Arizona.



Photograph 3-3. Lukeville, Arizona-Sonoyta, Mexico POE.

3.13 WASTE

3.13.1 Hazardous Waste

EPA's mission is to protect humans and the environment and work to develop and enforce regulations that implement environmental laws enacted by Congress (from such legislation as the Resource Conservation and Recovery Act of 1976 and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980). The EPA maintains a list of hazardous waste sites, particularly waste storage/treatment facilities or former industrial manufacturing sites in the U.S. The chemical contaminants released into the environment (air, soil or groundwater) from hazardous waste sites may include heavy metals, organic compounds, solvents and other chemicals. The potential adverse human health impact of hazardous waste sites is a considerable source of concern to the general public, as well as government agencies and health professionals.

EPA databases, Environmental and Compliance History Online and Envirofacts Data Warehouse, were reviewed for the locations of hazardous waste sites within or near the proposed project corridor (EPA 2007a, 2007b). According to both of these databases, no hazardous waste sites are located near or within the project corridor.

3.13.2 Unregulated Solid Waste

Unregulated solid waste within OPCNM has become a severe problem in recent years due to illegal vehicle and foot traffic. According to the Ninth Report of the Good Neighbor Environmental Board (GNEB) to the President and Congress of the U.S., the average IA disposes of approximately 8 pounds of waste a day. This waste consists of backpacks, clothing, blankets, water bottles, plastic sheeting, food, and other debris (GNEB 2006). Within the project area these forms of unregulated solid waste are the most commonly observed.

SECTION 4.0
ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

In accordance with CEQ regulations (40 CFR § 1502.16), this section of the EA addresses potential impacts to the affected environment within the project corridor for the two alternatives outlined in Section 2 of this document. An impact (consequence or effect) is defined as a modification to the human or natural environment that would result from the implementation of an action. The impacts can be either beneficial or adverse, and can be either directly related to the action or indirectly caused by the action. The effects can be temporary, short-term, long-term or permanent. For purposes of this EA, temporary effects are defined as those that would occur during construction or immediately after construction; short-term impacts would last less than 3 years after completion of the action. Long-term impacts are defined as those that would last 3 to 10 years. Permanent impacts would indicate an irretrievable loss or alteration of resources.

Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. The significance of the impacts presented in this EA is based upon existing regulatory standards, scientific and environmental knowledge, and best professional opinions. Significant impacts are those effects that would result in substantial changes to the environment (as defined by 40 CFR 1500-08) and should receive the greatest attention in the decision making process.

This EA describes the potential permanent impacts assuming that the entire 60-foot Roosevelt Reservation and 150-foot project footprint over Sonoyta Hill would be disturbed. It is also assumed that within the construction footprint any impacts would be permanent. Therefore, the permanent impacts described for the Proposed Action Alternative would total approximately 45 acres (12 acres within 150-foot wide footprint and 33 acres the within 60-foot wide footprint).

Other assumptions were also made in this EA regarding the primary pedestrian fence. It was assumed that in order to build the road and fence would require a range of 5.2 to 11.4 acre-feet (1.7 million gallons to 3.7 million gallons) of water for the concrete footer and dust suppression. One acre-foot is equivalent to 325,000 gallons of water. The primary pedestrian fence would require, as needed, maintenance activities to be performed by USBP that would be mostly limited to minor patchwork repairs and standard maintenance operations. These maintenance activities would not result in significant impacts to the natural or human environment.

The following discussions describe and, where possible, quantify the potential effects of each alternative on the resources within or near the project corridor. All impacts described below are considered to be adverse unless stated otherwise.

4.1 LAND USE

4.1.1 Alternative 1: No Action Alternative

Under the No Action Alternative, no infrastructure proposed as part of this project would be constructed. Although land use would not change, IA pedestrian traffic on OPCNM would continue and potentially increase with the implementation of other border enforcement activities along the southwest border.

4.1.2 Alternative 2: Proposed Action Alternative

The majority of the project corridor is within the Roosevelt Reservation. However, some of the project corridor (i.e., 7 acres) over Sonoyta Hill is not within the Roosevelt Reservation and would be used for USBP infrastructure maintenance and enforcement operations. A Special Use Permit articulating USBP's use of the 7 acres would be obtained from the NPS prior to construction, since the area would remain under NPS's management. The use of 7 acres represents less than 0.002 percent of the total OPCNM.

Indirect impacts to land use could occur outside of the project corridor as IAs attempt to circumvent the proposed infrastructure. These impacts cannot be quantified at this time because IA patterns and migration routes are completely out of USBP's control. However, the primary pedestrian fence would act as a force multiplier and allow for USBP to deploy agents to areas without pedestrian barriers. Therefore, potential adverse indirect impacts to land use would be minimal. Indirect beneficial impacts to land use on OPCNM are expected as a result of decreased illegal traffic within the project corridor. By reducing illegal traffic within and adjacent to the project corridor, damage to OPCNM north of the project corridor would also be reduced or possibly eliminated. OPCNM has identified that implementation of the Proposed Action Alternative might allow OPCNM to re-open some areas east of Lukeville (i.e., Gachado Line Camp) to the public that have been closed in the past due to IA activity (Kralovec 2007).

4.2 SOILS

4.2.1 Alternative 1: No Action Alternative

No ground disturbing activities would be conducted as a result of this alternative. Therefore, the No Action Alternative would have no direct impacts, either beneficial or adverse, on the soils within the project corridor. However, soils are currently indirectly impacted by illegal pedestrian traffic on OPCNM. In the absence of the primary pedestrian fence, IA foot traffic would continue and potentially increase, disturbing additional soils and causing soil erosion north of the project corridor.

4.2.2 Alternative 2: Proposed Action Alternative

The Proposed Action Alternative would permanently impact approximately 45 acres of soils within the project corridor through the construction of the primary pedestrian fence. About 17 acres of the total footprint are highly disturbed from the construction of the existing PVBs. Although these impacts would be permanent, they would not be considered significant because the impacts would primarily affect previously disturbed soils, and because of the vast amounts of similar soil types adjacent to the project corridor. No impacts to prime farmlands would occur.

As a result of this alternative, the volume of illegal pedestrian traffic would be expected to decrease and, consequently, would result in long-term indirect beneficial impacts to soils north of the project corridor. Indirect adverse effects to soils could occur in adjacent areas where the border infrastructure proposed under this alternative is not employed, as IAs try to circumvent the improved areas to avoid detection.

A Stormwater Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI) under the CWA's National Pollutant Discharge Elimination System (NPDES) would be required for all construction sites greater than 1 acre (33 U.S.C. §1342). These and other mitigation measures proposed to reduce or minimize erosion and ensure the hydrology of the project corridor is not permanently altered are discussed in Section 6.0.

4.3 BIOLOGICAL RESOURCES

4.3.1 Vegetation Communities

4.3.1.1 *Alternative 1: No Action Alternative*

There would be no direct impacts to the project corridor's vegetation communities as no construction would occur. Adverse, long term impacts to vegetation and vegetation communities would continue to occur from the continued damage caused by IA foot traffic on OPCNM. The No Action Alternative would not increase deterrence of illegal entry nor expand the window of opportunity for USBP agents to detect and respond to illegal entry attempts. Implementation of the No Action Alternative would result in continued indirect adverse impacts to vegetation communities from illegal traffic.

4.3.1.2 *Alternative 2: Proposed Action Alternative*

Implementation of the Proposed Action Alternative would result in the permanent loss of approximately 28 acres within the project corridor. The remaining 17 acres within the project corridor has no vegetation due to past construction and other human disturbances. The vegetation that does occur consists of locally and regionally common species; therefore, negligible effects would occur to the region's vegetation. Erosion within the disturbed areas would occur but would be minimized by implementing pre- and post-construction BMPs identified in the SWPPP. The proposed primary pedestrian fence and road would be designed and constructed in a manner that would not alter drainage patterns; thus, increased downstream erosion or sedimentation, which could affect vegetation communities, would not be expected.

Beneficial indirect impacts, such as a reduction of native vegetation being damaged from illegal activities and consequent USBP enforcement activities, would occur as IAs and smuggling activities are reduced or potentially eliminated within the area. Conversely, areas outside of the project corridor could be indirectly impacted as IAs attempt to avoid detection and circumvent the proposed infrastructure. These impacts cannot be quantified at this time because IA patterns and migration routes are completely out of USBP's control. However, the primary pedestrian fence would act as a force multiplier and allow USBP to deploy agents to areas without pedestrian barriers, therefore, minimizing potential adverse indirect impacts.

4.3.2 Wildlife

4.3.2.1 Alternative 1: No Action Alternative

No impacts to fish and wildlife resources would occur as a result of the implementation of the No Action Alternative because no construction activities would occur. However, indirect adverse impacts to wildlife from continued illegal pedestrian traffic degrading habitat would occur and could potentially increase.

4.3.2.2 Alternative 2: Proposed Action Alternative

Although approximately 45 acres would be permanently impacted from the Proposed Action Alternative, these impacts would be considered negligible, since much of the project corridor (17 acres) has been previously disturbed, and the remainder has limited and somewhat disturbed vegetation. The Proposed Action Alternative would not have direct impacts to fish or other aquatic species, because the proposed construction activities would not take place in naturally flowing or standing water. Mitigation measures would be implemented for construction in or near washes as stated in Section 6.0 and follow the measures described in the project's SWPPP to reduce potential impacts to riparian areas from erosion or sedimentation.

Mobile animals (e.g., birds) would escape to areas of similar habitat, while other slow or sedentary species of reptiles, amphibians, and small mammals could potentially be lost. As a result, direct minor adverse impacts to wildlife species in the vicinity of the project corridor are expected. Although some animals may be lost, this alternative would not result in any substantial reduction of the breeding opportunities for birds and other animals on a regional scale due to the tens of thousands of acres of suitable, similar habitat adjacent to the project corridor. Additionally, mitigation measures would be implemented to ensure that no "take" of migratory birds occurs if this alternative is implemented, in accordance with the Migratory Bird Treaty Act (MBTA).

Although the primary pedestrian fence could preclude transboundary migration patterns of animals, especially larger mammals (e.g., mule deer [*Odocoileus hemionus*]), and thus fragmenting habitat within the project corridor, these impacts would be considered minimal. Habitat fragmentation typically affects species with small population sizes or that are dependent upon migration to obtain spatially or temporally limited resources (Gilpin and Hanski, 1991). The primary pedestrian fence would be designed and constructed in the washes to allow proper conveyance of flood flows. It is expected that these designs would also allow the transboundary migration of reptiles, amphibians, and small mammals, which would reduce the fragmentation

effects. Wildlife would also still be able to migrate across the U.S.-Mexico border either to the east or west of the project footprint terminus. In addition, the species located within the project corridor are regionally common in both the U.S. and Mexico. Therefore, no significant adverse effects are anticipated to the region's wildlife population.

Indirect adverse impacts to wildlife habitat adjacent to the project corridor could occur as illegal pedestrian traffic attempts to circumvent the proposed infrastructure. It is possible for IAs to attempt illegal entry outside of the project corridor. However, the primary pedestrian fence would act as a force multiplier and allow USBP to deploy agents to areas without pedestrian barriers, minimizing potential adverse indirect impacts. Beneficial indirect impacts would be expected from the protection afforded to areas to the north of the project corridor due to the implementation of the Proposed Action Alternative.

4.3.3 Non-native and invasive species

4.3.3.1 Alternative 1: No Action Alternative

No impacts to non-native and invasive plants are expected as a result of the No Action Alternative because no construction activities would occur. However, indirect adverse impacts, such as the spread of non-native or invasive plants, could occur as a result of continued illegal pedestrian traffic.

4.3.3.2 Alternative 2: Proposed Action Alternative

Disturbance of 45 acres (total) of soils during the construction activities would result in favorable conditions for the establishment of non-native and invasive species. Disturbances would occur in vegetated areas that would create dispersal corridors for invasive species. However, because the project corridor would be patrolled and maintained by NPS and USBP (limiting potential for growth of new sprouts) and would be monitored for the spread of invasive species, potential impacts would not be considered significant. With the exception of Sonoyta Hill, some of the project corridor has been previously disturbed from the construction of the existing PVBs. Regardless, the establishment of invasive species within disturbed areas would be minimized through mitigation measures mentioned above and as described later in Section 6.0. The Proposed Action Alternative would also serve as a barrier to the spread of non-native and invasive plants, as many invasive plant propagules are transported into the U.S. on clothing of IAs (INS 2002).

4.4 UNIQUE AND SENSITIVE AREAS

4.4.1 Alternative 1: No Action Alternative

No impacts to unique and sensitive areas would result from the implementation of the No Action Alternative, as no construction would occur. However, indirect adverse impacts to unique and sensitive areas due to continued illegal pedestrian traffic would occur and could potentially increase.

4.4.2 Alternative 2: Proposed Action Alternative

Noise increases due to construction activities would be temporary; therefore, no long-term significant impacts to unique and sensitive areas, as a result of increases in ambient noise levels, would occur. The construction crews and equipment would access the project corridor along the border road primarily within the Roosevelt Reservation, limiting visual and noise impacts to the OPCNM. However, the use of South Puerto Blanco Road would be required to access the project corridor on the western face of Sonoyta Hill. A Special Use Permit from NPS would be needed for construction to access areas outside of the Roosevelt Reservation. This permit would be obtained prior to construction activities. Temporary impacts to aesthetics would be expected for the duration of the construction activities; however, these would be eliminated upon completion of this alternative. Permanent impacts to aesthetics would also be expected due to the additional infrastructure. However, these impacts would occur primarily within previously disturbed areas and mitigation measures (i.e., using non-reflective materials) would be implemented to ensure any impacts would be less than significant.

Furthermore, approximately 7 acres of unique and sensitive area (*i.e.*, OPCNM) would be directly impacted. This area is located on Sonoyta Hill along the western terminus of the project corridor. Although OPCNM would be adversely impacted, these impacts would not be considered significant as the indirect beneficial impacts from long-term protection of the remaining portions of OPCNM would be expected to outweigh the direct impacts.

The proposed infrastructure would have indirect beneficial impacts to unique and sensitive areas by reducing the frequency of illegal pedestrian traffic on OPCNM and subsequent creation of trails and disposal of trash. Furthermore, long-term protection of OPCNM resources such as natural vegetation, landscapes, and cultural sites would be expected under the Proposed Action Alternative. Indirect adverse impacts such as a decline in visitor attendance may occur during

construction activities; however, once the construction activities are complete, OPCNM would be afforded better protection and a safer environment. Thus, in the long-term, visitor experiences would be potentially enhanced (see Section 4.1.2). Other indirect adverse impacts to unique and sensitive areas outside of the project corridor could occur if IAs chooses to circumvent the proposed primary pedestrian fence. However, the primary pedestrian fence would act as a force multiplier and allow USBP to deploy agents to areas without pedestrian barriers; therefore, potential adverse indirect impacts would be minimized.

4.5 WILDERNESS

4.5.1 Alternative 1: No Action Alternative

No impacts to Wilderness Areas would occur from the implementation of the No Action Alternative, as no construction would occur. However, indirect adverse impacts to Wilderness Areas north and west of the project corridor could occur, since illegal pedestrian traffic would continue to occur and could potentially increase.

4.5.2 Alternative 2: Proposed Action Alternative

Wilderness Areas as defined in the Wilderness Act of 1964 are lands in an area where the earth and its community of life are untrammelled by man. The Proposed Action Alternative would not directly impact any areas designated as Wilderness Area. However, noise associated with construction equipment and construction activities would adversely affect Wilderness Area characteristics. These impacts would be temporary because noise levels near the OPCNM Wilderness would return to preconstruction levels upon completion of construction activities. Additionally, aesthetic qualities inherent to Wilderness Areas would be adversely impacted by the sight of the primary pedestrian fence within the viewshed. Two schematic representations of how the fence would appear from South Puerto Blanco road (near the OPCNM Wilderness) are presented in Exhibit 4-1 and 4-2. Additionally, as shown previously in Photographs 3-1 through 3-3, the area along the border contains a lot of development, litter, trails, and other types of disturbances. The primary pedestrian fence would reduce the amount of IA-associated litter and trails and screen the surrounding development from park visitors. Therefore, the adverse impacts of the primary pedestrian fence, when compared to the No Action Alternative and the long-term benefits of the primary pedestrian fence, would be considered insignificant.

Exhibit 4-1. Schematic Representation of View from South Puerto Blanco Road Facing Southwest



Exhibit 4-2. Schematic Representation of View from South Puerto Blanco Road Facing Southeast



There is a potential for areas adjacent to the project corridor to experience an increase in illegal foot traffic with the implementation of this alternative. All or none of the illegal foot traffic could shift to either east or west of the project corridor and potentially into designated Wilderness Areas. However, the Proposed Action Alternative would allow USBP to deploy agents, as needed, to other areas that are unprotected, which would reduce IA traffic impacts to Wilderness Areas near the project corridor. Therefore, no significant direct or indirect impacts to Wilderness Areas would be expected upon implementation of the Proposed Action Alternative.

4.6 PROTECTED SPECIES AND CRITICAL HABITAT

4.6.1 Alternative 1: No Action Alternative

The No Action Alternative would not directly impact any protected species as no construction activities would occur. However, indirect adverse impacts to protected species, such as habitat degradation as a result of continued illegal pedestrian traffic, would occur and could potentially increase.

4.6.2 Alternative 2: Proposed Action Alternative

The potential impacts to the Sonoran pronghorn associated with the Proposed Action Alternative would be similar to those discussed in the 2003 NPS Final EA and are incorporated herein by reference (NPS 2003). As seen on Figure 3-1, the Sonoran pronghorn range is not within the project corridor. Additionally, the project corridor is located along the U.S.-Mexico border (which is rarely visited by the pronghorn), within 2.1 miles of the Lukeville POE (pronghorn are very reclusive and do not like human interaction), and contains previously disturbed habitat. Although no direct impacts would occur to the pronghorn, there is the potential for indirect adverse impacts if IA traffic shifts west of the proposed infrastructure. Therefore, through consultation with USFWS, CBP and USBP has determined that this alternative would adversely effect the Sonoran pronghorn. CBP and USBP would implement conservation measures, identified during the Section 7 consultation process, to offset these impacts. Some conservation measures that have been identified and would be implemented include:

1. During construction USBP would conduct daily observations of project region as close to dawn as possible to determine if Sonoran pronghorn are within 0.62 mile of project activities. No project work will begin until pronghorn move on their own volition to a distance greater than 0.62 mile from the activities. This measure would be relevant for those activities only on the western slope of Sonoyta Hill, where there is a greater potential for pronghorn to occur.

2. The number of vehicles traveling to and from the project site for construction purposes and the number of trips per day would be minimized to reduce the likelihood of disturbing pronghorn in the area or injuring an animal on the road. The use of vehicle convoys, multi-passenger vehicles, and other methods are appropriate to project construction.
3. CBP will provide assistance to annually fill one supplemental water for Sonoran pronghorn on OPCNM per the CBP programmatic mitigation agreement with USFWS.

The project corridor is not located near any known bat roosting sites, and therefore, would not affect any roost sites, including maternity roosts. Almost all of the Sonoran Desert is considered foraging habitat for the lesser long-nosed bat and OPCNM consist of over 330,300 acres of Sonoran Desert. The permanent disturbance of 28 acres of foraging habitat would amount to the loss of less than 0.0006 percent of foraging habitat within the OPCNM. However, USBP and USFWS have determined that this loss would constitute an adverse impact on the lesser long-nose bat. Conservation measures developed through the Section 7 consultation process would be implemented by USBP to offset these impacts. For example, saguaro and other columnar cacti, which are main food sources for the lesser long-nosed bats, that are located within the project footprint would be removed, avoided, relocated, or replaced as part of the construction activities. Specifications regarding the size of columnar cacti to be relocated or replaced are presented in Section 6.0. Examples of other conservation measures that have been identified and would be implemented include the following:

1. Clearly demarcate the construction footprint to ensure construction contractors do not expand the disturbance area.
2. Salvage of lesser-long nosed bat food plants from areas to be disturbed by project activities as described in the salvage plan.
3. Complete a restoration plan for various illegal trails and roads to compensate for creation or improvement of roads needed for the fence project (in addition to other concerns, this will address the control of non-native, invasive plant species) within six months of issuance of the Biological Opinion.

Although no Sonoran desert tortoises or Mexican rosy boas were observed within the project corridor, the potential exists for them to occur near Sonoyta Hill. Wildlife strikes could be caused by construction vehicles or USBP patrol vehicles during project construction, maintenance activities, and during future USBP operations. However, the likelihood of these strikes are low because of the ability of most wildlife species to escape to surrounding habitat and the relatively low vehicle speed of construction and USBP patrol vehicles, especially in this rugged terrain. Due to the beneficial impacts of a reduction of habitat degradation north of the project corridor

combined with mitigation measures discussed in Section 6, these potential impacts to these two species are considered insignificant.

Additionally, the cactus ferruginous-pygmy owl has the potential to exist in the project corridor. However, the habitat in the project corridor is extremely limited and classified as ranging from poor to moderate with the exception of the western slope of Sonoyta Hill (NPS 2003). Therefore, due to the previously disturbed nature of some of the project corridor in conjunction with the limited quality habitat available, CBP has determined that the Proposed Action Alternative would not adversely affect the cactus ferruginous pygmy owl.

Indirect adverse impacts to potentially suitable habitat for protected species along the southwest border could occur due to IAs shifting their activities in order to avoid apprehension. It is impossible, however, for USBP to determine how much of the illegal pedestrian traffic currently entering the project corridor would shift either to the east, west, or be eliminated completely. The implementation of the Proposed Action Alternative would reduce or eliminate illegal foot traffic north of the primary pedestrian fence within the project corridor, protecting habitat that could otherwise be disturbed and permanently degraded. Further, because the primary pedestrian fence would act as a force multiplier, USBP would be able to deploy agents to those areas without primary pedestrian fence, minimizing potential indirect impacts to protected species habitat.

4.6.3 Critical habitat

No critical habitat exists near or within the project corridor; therefore, no direct impacts would be expected. Indirect adverse impacts could occur to areas outside of the project corridor (*i.e.*, Quitobaquito Springs); however, these potential impacts are outside of the USBP's control. IA movement, if any, to avoid the proposed infrastructure would be totally at the IAs discretion. Because the primary pedestrian fence would act as a force multiplier, USBP would be able to deploy agents to those areas lacking primary pedestrian fence and therefore, minimize potential indirect impacts.

Water would be trucked into the project corridor from sources located north of the OPCNM. These sources would be located within a completely different watershed and basin than Quitobaquito Springs. Therefore, the use of groundwater for the implementation of this project is

not expected to cause a deficit of water availability nor a drop in hydrostatic pressure for Quitobaquito Springs.

4.7 CULTURAL RESOURCES

4.7.1 Alternative 1: No Action Alternative

No impacts to cultural resources are expected, as no construction activities would occur. However, indirect adverse impacts to cultural resources as a result of continued IA pedestrian traffic disturbing cultural resources north of the project corridor could occur, and could potentially increase.

4.7.2 Alternative 2: Proposed Action Alternative

Three historic objects, International Boundary Monument 166, 167, and 168 are located within the project corridor and could be potentially affected by the Proposed Action Alternative. The historic objects are listed on the NRHP and are considered significant cultural resources. Mitigation measures to avoid adverse impacts to the cultural resources are outlined in Section 6 of this document. These measures, as well as other potential mitigation measures developed through consultation with the Arizona State Historic Preservation Officer (SHPO), would assure that no adverse impacts would occur to these cultural resources. SHPO concurrence with USBP's determination of "no affect to historic properties" is included in Appendix C.

As a result, the Proposed Action Alternative would not result in significant impacts on cultural resources provided mitigation measures, which will be identified through the Section 106 process, are properly implemented.

4.8 AIR QUALITY

4.8.1 Alternative 1: No Action Alternative

No impacts to air quality are expected as no construction activities would occur. However, indirect adverse impacts to air quality from illegal pedestrian traffic and subsequent USBP enforcement activities would occur, and could potentially increase.

4.8.2 Alternative 2: Proposed Action Alternative

Fugitive dust or PM-10 from soil disturbance, and emissions associated with construction equipment engines, are expected to create temporary, minor increases in air pollution in the project corridor. Due to the short duration of the construction project, any increases or impacts on ambient air quality are expected to be short-term and below levels that would cause Pima County to be in non-attainment for air quality standards.

A model was used to estimate the total air emissions from the new construction activities. Calculations were made for standard construction equipment such as drilling rigs, hole cleaners, generators, cement trucks, backhoes, cranes, and bulldozers using emission factors from EPA approved emission model NONROAD6.2. Model results for air emissions are presented in Appendix D. Fugitive dust emissions were calculated using emission factors from Mid-Atlantic Regional Air Management Association (MARAMA 2006) for the primary pedestrian fence construction.

Assumptions were made regarding the type of equipment, duration of the project, and the number of hours per day each type of equipment would be used. The assumptions, emission factors, and resulting calculations are presented in Appendix D. A summary of the total emissions are presented in Table 4-1. As Pima County is in attainment for all air quality standards, an air conformity analysis is not required.

Table 4-1. Total Air Emissions (tons/year) from Construction Activities

Pollutant	Total (tons/year)
Carbon Monoxide	23.49
Volatile Organic Compounds	5.28
Nitrogen Oxides	43.93
Particulate Matter <10 microns	32.92
Particulate Matter < 2.5 microns	9.52
Sulfur Dioxide	5.38

Source: 40 CFR 51.853 and Gulf South Research Corporation (GSRC) 2007

Impacts from combustible air emissions due to everyday USBP traffic are expected to be the same after the primary pedestrian fence is built as they are currently. Construction workers would temporarily increase the combustible emissions in the air shed during their commute to and from work. Supplies would have to be delivered to the site by large delivery trucks. The

emissions from supply trucks and workers commuting to work were included in the air emission analysis (Appendix D) and in the totals presented in Table 4-1.

During the construction of the proposed project, proper maintenance of all vehicles and other construction equipment shall be implemented to ensure that emissions are within the design standards of all construction equipment. Dust suppression methods (e.g., watering of soils) shall be implemented to minimize fugitive dust emissions. Such measures would further ensure that air emissions generated by the Proposed Action Alternative would be temporary and would not significantly impair air quality in the region.

Indirect impacts to air quality due to the shifting of illegal traffic in order to avoid the proposed infrastructure is possible; however, it is unknown where IAs would choose to breach the U.S.-Mexico border. Therefore, it is impossible for USBP to determine how much of the illegal traffic currently entering the project corridor would shift either to the west or be eliminated completely.

4.9 WATER RESOURCES

4.9.1 Alternative 1: No Action Alternative

No impacts to water resources as a result of the No Action Alternative are expected because no construction activities would occur.

4.9.2 Alternative 2: Proposed Action Alternative

No wetlands would be either directly or indirectly impacted as a result of this alternative as none exist within the project corridor. A total of 16 intermittent streams cross the project corridor. All appropriate CWA Section 404 Permits from the U.S. Army Corps of Engineers (USACE) Los Angeles District Regulatory Branch, as well as Section 401 Water Quality Certifications from the Arizona Department of Environmental Quality, would be obtained prior to any fill material being placed in potential jurisdictional waters of the U.S. As mentioned previously, the primary pedestrian fence and road would be designed and constructed in a manner that would not alter drainage patterns or exacerbate erosion and sedimentation problems. Pre- and post-construction BMPs would also be implemented to further reduce the potential for erosion and sedimentation. Some of these measures are described in Section 6.0. Furthermore, as mentioned in Section 2.2, USBP would be responsible for maintaining the primary pedestrian fence and assuring that any

debris accumulated along the primary pedestrian fence during rain events is quickly removed to prevent backwater flooding.

Although the project corridor traverses the 100-year floodplain, no adverse impacts are expected. The design of the primary pedestrian fence will incorporate features to ensure that flows and flood elevations within the floodplain are not adversely modified, both locally and regionally. CBP has determined that there is no other practicable alternative to constructing sections of the fence within the floodplain, as the border bisects the floodplain and the proposed fence must be located on the border. Therefore, the Proposed Action Alternative would not contradict E.O. 11988 nor create significant impacts to floodplains.

It is estimated that a range of 5.2 to 11.4 acre-feet of water would be required for dust suppression and construction activities. Water would be obtained from a source north of the OPCNM (e.g., Why, Ajo, or Gila Bend) and be trucked in to the project corridor. The use of water from these sources would not create a deficit either locally or regionally. Therefore, no significant impacts to groundwater within the project corridor would be expected.

During construction activities, degradation of water quality as a result of sediment transported by stormwater within any of the washes located within the project corridor would be minimized by implementing the SWPPP and best management practices (BMPs). Equipment required for the construction activities would not be staged or stored within 100 feet of washes to prevent any contamination from accidental petroleum, oil, and lubricants (POL) spills that could occur. Additionally, the primary pedestrian fence within washes would be designed and constructed to ensure that the primary pedestrian fence does not impede flow nor contribute significantly to sedimentation or erosion within the washes. Therefore, no significant impacts to surface waters would be expected.

Indirect impacts associated with the construction process would be insignificant, and minimized through the implementation of mitigation measures discussed in Section 6.0. Additional indirect impacts to water quality outside of the project corridor could also occur as IAs attempt to circumvent the proposed infrastructure. However, it is unknown at this time where, when, or if IAs will try to circumvent the project corridor, as this is completely out of USBP control and totally at the IAs' discretion. Although it is unknown where IAs might try to circumvent the proposed infrastructure, the primary pedestrian fence would act as a force multiplier and allow USBP to

deploy agents to unprotected areas. Thus, any potential indirect impacts to water resources outside the project corridor would be further minimized.

4.10 SOCIOECONOMICS

4.10.1 Alternative 1: No Action Alternative

No impacts to the region's socioeconomic resources would occur under the No Action Alternative, as no construction activities would take place. However, the current level of illegal pedestrian traffic would continue at its current rate and possibly increase. As a result, illegal traffic and the crimes and social costs associated with it would also continue or increase; thus, long-term, adverse socioeconomic impacts across the region would be incurred.

4.10.2 Alternative 2: Proposed Action Alternative

Direct beneficial impacts from the Proposed Action Alternative include minor and temporary increases in sales volumes, housing demands for construction crews, material purchases, and sales taxes. Additionally, implementation of the Proposed Action Alternative would reduce the amount of illegal pedestrian traffic in the region, which, in turn, would reduce the associated societal and economic costs to the region. These societal and economic costs include but are not limited to the costs of removal of trash, overall degradation of property, reduction in property value, and degradation of natural and cultural resources (*i.e.*, OPCNM). Consequently, this reduction in illegal traffic would have an indirect beneficial long-term impact to the local economy.

Impacts regarding E.O. 13045 and E.O. 12898 from the implementation of the Proposed Action Alternative would be similar to those previously discussed in the 2003 Final EA and are incorporated herein by reference (NPS 2003). Given the remote location of the primary pedestrian fence, there is no potential for disproportionately high and adverse impacts to minority populations and low income families. The primary pedestrian fence would reduce illegal traffic north of the project corridor, making it safer for everyone regardless of race, nationality, age, or income level. Therefore, no significant impacts relative to environmental justice or protection of children issues are expected as a result of the Proposed Action Alternative.

Indirect impacts could occur to areas outside of the project corridor if illegal pedestrian traffic shifts to other areas of the U.S.-Mexico border (*i.e.*, TON). However, it is impossible to determine what those impacts would be, if any, as the direction or lack thereof is solely at the discretion of the

IAs. As mentioned previously, the primary pedestrian fence would allow USBP to deploy agents to those areas lacking infrastructure to minimize impacts from any potential shift in IA traffic.

4.11 NOISE

4.11.1 Alternative 1: No Action Alternative

No noise impacts would occur as a result of the No Action Alternative because construction activities would not occur. However, indirect adverse impacts from illegal pedestrian traffic and consequent USBP enforcement activities would continue and possibly increase.

4.11.2 Alternative 2: Proposed Action Alternative

Noise levels created by the transport of construction vehicles, construction equipment, and construction activities would vary depending on several factors, such as climatic conditions, season, and the condition of the equipment. All construction and transport activities would occur during daylight hours. OPCNM and its associated Wilderness Area are considered sensitive noise receptors within the region. However, noise levels would decrease to an inaudible level as the distance between the construction activities and the noise receptors (OPCNM and Wilderness Area) increases. As mentioned in Section 3.11, noise from construction equipment would be reduced to 55 dBA (*i.e.*, acceptable noise level) within 2,600 feet. Additionally, the project corridor is located adjacent to the Lukeville POE and Sonoyta, Mexico, which are constant sources of noise within the region. Therefore, because the increased noise levels would be temporary and minor, no direct significant impacts to ambient noise levels would occur upon completion of construction.

Indirect impacts as a result of IAs trying to circumvent the proposed infrastructure could occur to areas outside the project corridor. However, it is impossible for USBP to determine how much of the illegal traffic would shift either to the east, west, or be eliminated completely.

4.12 AESTHETICS

4.12.1 Alternative 1: No Action Alternative

No impacts to aesthetics would occur upon implementation of the No Action Alternative as no construction activities would occur. However, indirect adverse impacts to aesthetics as a result of IAs trampling vegetation and leaving trash and debris would continue and possibly increase.

4.12.2 Alternative 2: Proposed Action Alternative

The construction of 0.65 miles of primary pedestrian fence over the Sonoyta Hill would create additional impacts as compared to the No Action Alternative. However, due to the existing infrastructure surrounding Sonoyta Hill combined with mitigation measures (see Section 6.8), these impacts would not be considered significant. The construction of 5.2 miles of primary pedestrian fence would not differ substantially from the existing border infrastructure (e.g., chain link fence, PVBs). In addition, the Lukeville POE, illegal trails, trash, and developments within Sonoyta, Mexico also detract from the visual qualities of the project corridor, as shown previously in Photographs 3-1 through 3-3. A short term minimal impact to aesthetics would occur during construction; however, there would be no long term significant adverse impacts on the visual quality of the region.

Indirect adverse impacts related to the possibility of IAs circumventing the proposed primary pedestrian fence would be similar to those mentioned previously. Beneficial indirect impacts would be expected as the primary pedestrian fence would eliminate IA traffic and associated trash and illegal trails in the project corridor.

4.13 Hazardous and Solid Waste

4.13.1 Alternative 1: No Action Alternative

No impacts regarding hazardous or solid waste are expected, as no construction activities would occur.

4.13.2 Alternative 2: Proposed Action Alternative

The potential exists for POL spills to occur while refueling construction equipment used during the implementation of the Proposed Action Alternative. However, clean-up materials (e.g., oil mops) would be maintained at the project site to allow immediate action in case an accidental spill occurs. Drip pans would be provided for stationary equipment to capture any POL that is accidentally spilled during maintenance activities or leaks from equipment. In addition, a Spill Prevention, Control, and Countermeasures Plan (SPCCP) would be in place prior to the start of construction, and all personnel would be briefed on the implementation and responsibilities of this plan. OPCNM would be provided a copy of the SPCCP prior to construction activities.

Sanitary facilities would be provided during construction activities and waste products would be collected and disposed of by licensed contractors. No gray water would be discharged to the ground. Disposal contractors would dispose of all waste in strict compliance with Federal, state, and local regulations, in accordance with the contractor's permits.

The proposed infrastructure would also have indirect beneficial impacts through the reduction of solid waste. As illegal foot traffic is reduced or eliminated within the project corridor, so would the solid waste that is associated with it.

SECTION 5.0
CUMULATIVE IMPACTS

5.0 CUMULATIVE IMPACTS

This section of the EA addresses the potential cumulative impacts associated with the implementation of the alternatives and other projects/programs that are planned for the region. The CEQ defines 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 actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). This section continues, “Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

USBP has been conducting law enforcement actions along the border since its inception in 1924 and has continuously transformed its methods as new missions, IA modes of operations, agent needs and national enforcement strategies have evolved. Development and maintenance of training ranges, station and sector facilities, detention facilities, and roads and fences have impacted thousands of acres with synergistic and cumulative impacts to soil, wildlife habitats, water quality, and noise. Beneficial effects, too, have resulted from the construction and use of these roads and fences including, but not limited to, increased employment and income for border regions and its surrounding communities; protection and enhancement of sensitive resources north of the border; reduction in crime within urban areas near the border; increased land value in areas where border security has increased; and increased knowledge of the biological communities and pre-history of the region through numerous biological and cultural resources surveys and studies.

With continued funding and implementation of CBP’s environmental conservation measures, including environmental education and training of its agents; use of biological and archeological monitors; wildlife water systems; and restoration activities, adverse impacts due to future and on-going projects would be avoided or minimized. However, recent, on-going and reasonably foreseeable proposed projects will result in cumulative impacts. In particular, within the next 2 years, 225 miles are scheduled to be completed. The first phase of construction would occur in areas that have already been developed (e.g., currently contains PVB or temporary vehicle barriers [TVB]) and thus, little or no additional environmental impacts would be expected. The second phase of construction would generally occur in more remote areas, and would inevitably result in cumulative impacts. It should be noted that the final locations for the primary

pedestrian fence have not been determined yet so, these should be considered only as planning estimates.

A list of the past, on-going, and other proposed projects within the region surrounding the Ajo Station's AO are summarized in Table 5-1:

Table 5-1. Recently Completed or Reasonably Foreseeable USBP projects in Ajo Station's AO

Project	Approximate Distance from Project Corridor (miles)	Approximate Acres Permanently Impacted
Installation of 26 emergency beacons within the CPNWR and BMGR	24	0
Implementation of Operation Skywatch (a seasonal search and rescue mission using helicopters and fixed-wing aircraft)	0	0
Proposed construction of 36 miles of pedestrian barrier, 35 miles of patrol and drag road, eight water wells, two new temporary staging areas, five existing staging areas, and approximately 7.5 miles of improvements to north-south access roads	70	198
Proposed acquisition of 30 acres adjacent to the USBP Ajo Station for horse corral, station expansion, and parking	30	30
Proposed installation of five camp details, access and maintenance of approximately 300 miles of roads on CPNWR and BMGR, installation of eight temporary vehicle barriers, construction of 104 miles of all-weather road, construction of 114 miles of drag roads, and construction of approximately 36 miles of permanent vehicle barriers on the CPNWR	40	589
Proposed installation of two additional rescue beacons on CPNWR	18	0
Proposed installation of 12 RVS systems along the U.S.-Mexico border south of Ajo, Arizona	30	1
Proposed improvement of 80 miles of all weather patrol road and construction of 50 miles of PVBs on TON as well as a construction access road for the installation and maintenance of the PVBs	15	72
Proposed installation of a water well and upgrade of Desert Grip camp detail including road improvements in the Wellton Station's AO	25	14
New infrastructure at the Lukeville – Sonoyta crossing including office space, light industrial space, health unit space, and warehouse/storage space (Garcia 2007)	0	1
Proposed widening of the El Camino Del Diablo to approximately 18-feet wide.	15	62
Proposed installation of 14 tower sites in the Ajo Station AO.	15	7
Total		974 acres

The USBP might be required to implement other activities and operations that are currently not foreseen or mentioned in this document. These actions could be in response to National emergencies or security events like the terrorist attacks on September 11, 2001 or to changes in the mode of operations of the potential IAs.

In addition, projects are currently being planned by other Federal entities which could affect areas in use by USBP. CBP should maintain close coordination with these agencies to ensure that CBP activities do not conflict with other agency(s) policies or management plans. CBP will consult with applicable state and Federal agencies prior to performing any construction activities and will coordinate operations so that it does not impact the mission of other agencies. The following is a list of projects other Federal agencies and tribes are conducting or have completed within the U.S.-Mexico border region.

OPCNM:

1. Planned installation of fiber optic cable along State Route 85 from the northern boundary of the OPCNM to the Visitors Center (Kralovec 2007b).
2. Proposed installation of approximately 2 miles of new water line from the Visitors Center to the Camp Grounds (Kralovec 2007b).

A summary of the anticipated cumulative impacts relative to the Proposed Action Alternative (*i.e.*, construction of 5.2 miles of primary pedestrian fence within the Ajo Station) is presented below. These discussions are presented for each of the resources described previously.

Land Use. A significant impact would occur if any action is inconsistent with adopted land use plans or an action would substantially alter those resources required for, supporting or benefiting the current use. The Proposed Action Alternative would only permanently affect 45 acres, of which 38 are located in the Roosevelt Reservation that was set aside specifically for border control actions. The use of 7 acres of NPS lands on the OPCNM would not be considered cumulatively significant as the OPCNM encompasses over 330,000 acres and the impact would account for less than 0.002 percent of the OPCNM total acreage. In addition, a Special Use Permit would be obtained by USBP for the use of this land for construction of the road and fence which acts as a tool to protect the remainder of the park. Therefore, this action within the Roosevelt Reservation is consistent with the authorized land use and, when

considered with other potential alterations of land use, would not be expected to result in a significant cumulative adverse effect.

Soils. A significant impact would occur if the action exacerbates or promotes long-term erosion, if the soils are inappropriate for the proposed construction, and would create a risk to life or property; or if there would be a substantial reduction in agricultural production or loss of prime farmland soils. The proposed action and other USBP actions have not reduced prime farmland soils or agricultural production. Pre- and post-construction SWPPP measures would be implemented to control soil erosion. No inappropriate soil types are located in the project corridor that would present a safety risk. The impact to 45 acres, including 17 acres of previously disturbed soils, when combined with past and proposed projects in the region, would not be considered a significant cumulative adverse impact.

Biological Resources. The significance threshold for biological resources would include a substantial reduction in ecological process, communities, or populations that would threaten the long-term viability of a species or result in the substantial loss of a sensitive community that could not be off-set or otherwise compensated. Removal of 28 acres of locally common habitat would result in insignificant cumulative impacts to vegetation communities and wildlife populations since habitat in the project corridor is regionally common. The long-term viability of species and communities in the project region would not be threatened. The loss of 28 acres of wildlife habitat, when combined with other ground disturbing or development projects in the project region, would not result in significant cumulative negative impacts on the region's biological resources.

Cultural Resources. The proposed action would have no effect on cultural resources. Therefore, this action, when combined with other existing and proposed projects in the region, would not result in significant cumulative impacts to historical properties.

Air Quality. Impacts to air quality would be considered significant if the action resulted in a violation of air quality standards, obstructs implementation of an air quality plan, or exposes sensitive receptors to substantial pollutant concentrations. The emissions generated during and after the construction of the proposed primary pedestrian fence would be short-term and minor. Although maintenance of the primary pedestrian fence would result in cumulative impacts to the region's airshed, these impacts would not be considered significant even when combined with

the other proposed developments in the border region. Deterrence of and improved response time to IAs created by the construction of the primary pedestrian fence would reduce off-road enforcement actions that are currently required by USBP agents.

Water Resources. The significance threshold for water resources include any action that substantially depletes groundwater or surface water supplies or interferes with groundwater recharge, substantially alters drainage patterns, or results in the loss of waters of the U.S. that cannot be compensated. No significant impact to water resources would occur as a result of the construction and maintenance of the proposed primary pedestrian fence. The required SWPPP and BMPs would reduce erosion and sedimentation during construction to negligible levels and would eliminate post-construction erosion and sedimentation from the site. The same measures would be implemented for other construction projects; therefore, cumulative impacts would not be significant.

Socioeconomics. Significance threshold for socioeconomic conditions include displacement or relocation of residences or commercial buildings; increases in long-term demands to public services in excess of existing and projected capacities; and disproportionate impacts to minority and low income families. Construction of the proposed infrastructure would result in temporary cumulative beneficial impacts to the region's economy. No impacts to residential areas, population, or minority or low-income families would occur. These effects, when combined with the other currently proposed or on-going projects within the region, would not be considered as significant cumulative impacts.

Noise. Actions would be considered to cause significant impacts if they permanently increase ambient noise levels over 65 dBA. Most of the noise generated by the proposed action would occur during construction and, thus, would not contribute to cumulative impacts to ambient noise levels. Routine maintenance of the primary pedestrian fence would result in slight temporary increases in noise levels that would continue to sporadically occur over the long-term and would be similar to ongoing PVB maintenance within the project corridor. Potential sources of noise from other projects are not enough (temporal or spatial) to increase ambient noise levels above the 65 dBA range at the proposed sites. Thus, the noise generated by the construction and maintenance of the proposed infrastructure, when considered with the other existing and proposed projects in the region, would not be considered a significant cumulative adverse effect.

Aesthetics. Actions that cause the permanent loss of the characteristics that make an area visually unique or sensitive would be considered to cause a significant impact. No major impacts to visual resources would occur from implementing the proposed action, due in part to the heavily degraded nature of the project corridor, development on the south side of the border, and the existing border tactical infrastructure. Construction and maintenance of the proposed primary pedestrian fence, when considered with existing and proposed developments in the surrounding area, would not result in a significant cumulative negative impact on the visual quality of the region. Areas north of the border would experience beneficial, indirect cumulative effects by the reduction of trash and debris produced by IAs.

Hazardous and Solid Wastes. Significant impacts would occur if an action creates a public hazard, the site is considered a hazardous waste site that poses health risks, or if the action would impair the implementation of an adopted emergency response or evacuation plan. Only minor increases in the use of hazardous substances (*e.g.*, POL) would occur as a result of the construction and maintenance of the primary pedestrian fence. No health or safety risks would be created by the proposed action. The effects of this proposed action, when combined with other on-going and proposed projects in the region, would not be considered a significant cumulative effect.

SECTION 6.0
MITIGATION MEASURES

6.0 MITIGATION MEASURES

This chapter describes those measures that would be implemented to reduce or eliminate potential adverse impacts to the human and natural environment. Many of these measures have been incorporated as standard operating procedures by USBP on past projects. It is USBP policy to mitigate adverse impacts through the sequence of avoidance, minimization, and finally, compensation. Mitigation measures are presented below for each resource category that would be potentially affected. It should be noted that if any of the alternatives for this project are implemented, the following mitigation measures could be employed.

6.1 GENERAL CONSTRUCTION ACTIVITIES

BMPs would be implemented as standard operating procedures during all construction activities, and would include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils and solvents would be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery would be completed following accepted industry guidelines, and all vehicles could have drip pans during storage to contain minor spills and drips. Although it will be unlikely for a major spill to occur, any spill of reportable quantities would be contained immediately within an earthen dike, and the application of an absorbent (e.g., granular, pillow, sock, *etc.*) would be used to absorb and contain the spill. Furthermore, any petroleum liquids (e.g., fuel) or material listed in 40 CFR 302 Table 302.4 of a reportable quantity must be cleaned up and reported to the appropriate Federal and state agencies. Reportable quantities of those substances listed on 40 CFR 302 Table 302.4 would be included as part of the SPCCP. A SPCCP would be in place prior to the start of construction and all personnel would be briefed on the implementation and responsibilities of this plan.

All construction would follow DHS management directive 5100 for waste management. All waste oil and solvents would be recycled. All non-recyclable hazardous and regulated wastes would be collected, characterized, labeled, stored, transported and disposed of in accordance with all Federal, state, and local regulations, including proper waste manifesting procedures.

Solid waste receptacles would be maintained at staging and bivouac areas. Non-hazardous solid waste (trash and waste construction materials) would be collected and deposited in the on-site receptacles. Solid waste would be collected and disposed of by a local waste disposal contractor. Waste materials and other discarded materials would be removed from the site as quickly as possible in an effort to keep the project area and surroundings free of litter.

Waste water (water used for project purposes that is contaminated with construction materials, was used for cleaning equipment and thus carries oils or other toxic materials or other contaminants in accordance with state regulations) is to be stored in closed containers on site until removed for disposal. Concrete wash water would not be dumped on the ground, but is to be collected and moved offsite for disposal.

6.2 SOILS

Erosion control techniques, such as the use of straw bales (weed free straw), aggregate materials, wetting compounds (*i.e.*, water) and revegetation with native plant species, where possible, would be incorporated with the design of the Proposed Action Alternative. In addition, other erosion control measures, as required and promulgated through the SWPPP, would be implemented before and after construction activities.

6.3 BIOLOGICAL RESOURCES

All contractors, work crews (including National Guard and military personnel), and CBP personnel in the field performing construction and maintenance activities would receive training on the habitat and habits of the species that are found in the area, including information on how to avoid impacts to the species from their activities. This training would be provided to all contractor and work crew project managers and senior military leaders who are working onsite. It would be the responsibility of these project managers and senior military leaders to ensure that their personnel are familiar with the BMPs and other limitations and constraints.

CBP would truck water into the project site for purposes of construction to ensure that no impacts to flora or fauna near and within Quitobaquito Springs would occur.

The MBTA requires that Federal agencies coordinate with USFWS if a construction activity would result in the “take” of a migratory bird. Since construction or clearing activities cannot be scheduled to avoid the nesting season (typically March 15 through September 15), preconstruction surveys for migratory bird species would occur immediately prior to the start of any construction activity to identify active nests. If construction activities would result in the “take” of a migratory bird, then coordination with USFWS and AGFD would occur, and applicable permits would be obtained prior to construction or clearing activities.

Although no Sonoran desert tortoises or Mexican rosy boas were observed during biological surveys the potential exists for these species to occur in and near Sonoyta Hill. In the event a tortoise or boa is observed within the construction corridor during construction activities, a qualified biologist would capture and relocate the individual to an area outside of the corridor but still on Sonoyta Hill.

CBP would truck water into the project site for purposes of construction to ensure that no impacts to flora or fauna near and within Quitobaquito Springs would occur.

A salvage plan would be developed by the CBP, in close coordination with NPS, prior to construction activities. CBP will salvage as many columnar cacti as possible. CBP will develop and fund a restoration plan, in coordination with the NPS to restore illegal trails and roads on OPCNM. This will enhance bat foraging opportunities.

Materials used for on-site erosion control would be free of non-native plant seeds and other plant parts to limit potential for infestation. Additionally, all areas within the construction footprint would be monitored for a period of three years for the spread and eradication of non-native and invasive species. Construction equipment would be cleaned using BMPs prior to entering and departing the OPCNM to minimize the spread and establishment of non-native and invasive species.

6.4 CULTURAL RESOURCES

Construction near the Gachado Line Camp would be monitored by a professional archeological monitor to ensure no impacts would occur. Buffers would be established around the three historic objects that lie within the proposed construction corridor in order to avoid any adverse effects to

these significant cultural resources. If any cultural material is discovered during the construction efforts, then all activities would halt until a qualified archeologist can be brought in to assess the cultural remains.

6.5 WATER RESOURCES

Standard construction procedures would be implemented to minimize the potential for erosion and sedimentation during construction. All work would cease during heavy rains and would not resume until conditions are suitable for the movement of equipment and material. In accordance with regulations of the EPA Phase II of the NPDES stormwater program, a SWPPP would be required for stormwater runoff from construction activities greater than 1 acre and less than 5 acres. Therefore, a SWPPP would be prepared and the NOI submitted prior to the start of any construction. Equipment required for the construction activities would not be staged or stored within 100 feet of any wash to prevent any contamination from accidental POL spills that could occur. Primary pedestrian fence constructed in washes/arroyos would be designed to ensure proper conveyance of floodwaters and to eliminate the potential to cause backwater flooding on either side of the U.S.-Mexico border. Immediately after rain events, CBP would be responsible for ensuring that debris is removed from the primary pedestrian fence within washes/arroyos to ensure that no backwater flooding occurs. Additionally, all concrete trucks would be washed and cleaned outside of the project corridor and OPCNM lands.

6.6 AIR QUALITY

Standard construction practices such as routine watering of the construction site would be used to control fugitive dust during the construction phases of the proposed project. Additionally, all construction equipment and vehicles would be required to be kept in good operating condition to minimize exhaust emissions.

6.7 NOISE

During the construction phase, short-term noise impacts are anticipated. All Occupational Safety and Health Administration requirements would be followed. On-site activities would be restricted to daylight hours with the exception of concrete pours and emergency situations. Construction equipment would possess properly working mufflers and would be kept properly tuned to reduce

backfires. Implementation of these measures would reduce the expected short-term noise impacts to an insignificant level in and around the construction site.

6.8 AESTHETICS

In order to minimize potential aesthetic impacts over Sonoyta Hill, CBP would use subdued and non-reflective materials to build the primary pedestrian fence. These materials are expected to blend with the landscape as it naturally rusts.

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 7.0
PUBLIC INVOLVEMENT

7.0 PUBLIC INVOLVEMENT

7.1 AGENCY COORDINATION

This chapter discusses consultation and coordination that has occurred during preparation of this document. Agency correspondence and consultation letters are included in Appendix C. Formal and informal coordination has been conducted with the following agencies:

- U.S. Fish and Wildlife Service (USFWS)
- U.S. Environmental Protection Agency (EPA)
- U.S. Section, International Boundary and Water Commission (USIBWC)
- Natural Resource Conservation Service (NRCS)
- Arizona State Historic Preservation Office (SHPO)
- Arizona Game and Fish Department (AGFD)
- Pima County Department of Environmental Quality
- National Park Service (NPS)
- Organ Pipe Cactus National Monument (OPCNM)
- U.S. Army Corps of Engineers, Los Angeles District (USACE)
- Federally Recognized Tribes

7.2 PUBLIC REVIEW

The draft EA was made available for public review for a period of 30 days, beginning on September 17, 2007, which is the day the Notice of Availability (NOA) was published in local newspapers. A copy of the NOA that was published, announcing the availability of the draft EA, is included on the following page. Comments received concerning the draft EA were addressed and, where appropriate, changes were incorporated into the final EA.

During the public review period, comments were received from USIBWC, TON, OPCNM, and AGFD. Copies of the comment letters are included in Appendix C as well as the comment/response matrix developed by CBP. In summary, USIBWC expressed their jurisdictional concerns pertaining to overland drainage flow into Mexico, maintenance of border monuments, and the structural integrity of proposed primary pedestrian fence. AGFD expressed its natural resource management concerns pertaining to habitat fragmentation and degradation, as well as the need to coordinate its responsibilities with CBP's mission. The OPCNM expressed concerns with traversing Sonoyta Hill and potential effects to groundwater supplies. The TON was

mainly concerned with viewshed and cultural landscape issues, and indirect effects of shifts in illegal traffic to the TON (see Appendix C).

Revisions to the Draft EA have been incorporated, as appropriate, to this Final EA, based on the comments received. In addition, CBP has coordinated with OPCNM to ensure that its primary concerns have been sufficiently addressed in this document.

TUCSON'S NEWSPAPERS

Tucson, Arizona

STATE OF ARIZONA)
COUNTY OF PIMA)

Debbie Capanear, being first duly sworn deposes and says: that she is the Legal Advertising Representative of the **TUCSON'S NEWSPAPERS COMPANY**, a corporation organized and existing under the laws of the State of Arizona, and that the said **TUCSON'S NEWSPAPERS PUBLISHING COMPANY** prints and publishes the Arizona Daily Star and Tucson Citizen, daily newspapers printed and published in the City of Tucson, Pima County, State of Arizona, and having a general circulation in said City, County, State and elsewhere, and that the attached

Legal Notice

was printed and published correctly in the entire issue of the said Arizona Daily Star and Tucson Citizen on each of the following dates, to-wit:

Sept. 17, 2007

Debbie Capanear

Subscribed and sworn to before me this 20th day of

Sept., 2007

Silvia H Valdez
Notary Public



SILVIA H VALDEZ
Notary Public - Arizona
Pima County
Expires 12/15/09

My commission expires _____

TNI AD NO. _____

NOTICE OF AVAILABILITY
DRAFT ENVIRONMENTAL
ASSESSMENT AND
DRAFT FINDING OF NO
SIGNIFICANT IMPACT
FOR THE INSTALLATION OF
5.2 MILES OF PRIMARY
FENCE U.S. BORDER PATROL
TUCSON SECTOR, ARIZONA

The public is hereby notified of the availability of the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct 5.2 miles of Primary Fence along the U.S.-Mexico border within the Ajo Station's Area of Operations (AO). This document addresses the construction of 0.65 miles of new primary fence and retrofitting 4.55 miles of existing permanent vehicle barriers with primary fence near the Lukeville Port-of-Entry.

This Draft EA and FONSI are available for review at the Ajo Public Library in Ajo, Arizona and are also available at the following URL: <http://ecso.swi.usace.army.mil>. Additional copies are available upon written request. Written comments can be submitted to: U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-ECSO/McGregor, 819 Taylor Street, Room 3A28, Fort Worth, TX 76102 or via facsimile at (817) 886-6404. Comments must be received within 30 calendar days of the date of this publication.

Publish September 17, 2007
The Arizona Daily Star
Tucson Citizen

Publisher's Affidavit of Publication

o0o

STATE OF ARIZONA }
COUNTY OF YUMA }

NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL
ASSESSMENT AND
DRAFT FINDING OF NO
SIGNIFICANT IMPACT
FOR THE INSTALLATION OF
5.2 MILES OF PRIMARY FENCE
U.S. BORDER PATROL
TUCSON SECTOR, ARIZONA

The public is hereby notified of the availability of the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct 5.2 miles of Primary Fence along the U.S.-Mexico border within the Ajo Station's Area of Operations (AO). This document addresses the construction of 0.65 miles of new primary fence and retrofitting 4.55 miles of existing permanent vehicle barriers with primary fence near the Lukeville Port-of-Entry.

This Draft EA and FONSI are available for review at the Ajo Public Library in Ajo, Arizona and are also available at the following URL:

<http://ecso.swf.usace.army.mil>. Additional copies are available upon written request. Written comments can be submitted to: U.S. Army Corps of Engineers, Fort Worth District, ATTN:

CESWF-PM-ECISO/McGregor, 819 Taylor Street, Room 3A28, Fort Worth, TX 76102 or via facsimile at (817) 886-6404. Comments must be received within 30 calendar days of the date of this publication. Daily September 17, 2007 #L35684

Julie Moreno or Patrick Norris, having been first duly sworn, deposes

and says: that The Sun is a newspaper of general circulation

published daily in the City of Yuma, County of Yuma, State of Arizona;

that (s)he is the publisher or business manager of said paper; that the

NOTICE OF AVAILABILITY

a printed copy of which, as it appeared in said paper, is hereto attached

and made a part of this affidavit, was published in The Sun

For ONE issues; that the date of the first

publication of said NOTICE OF AVAILABILITY

was SEPTEMBER 17, 2007 and the date of the last publication

being SEPTEMBER 17, 2007 and that the dates when said

NOTICE OF AVAILABILITY

was printed and published in said paper were

SEPTEMBER 17, 2007

Subscribed and sworn to before me, by the said Julie Moreno or Patrick Norris

19th day of September, 2007

Virgen P. Perez Notary Public

My commission expires May 10, 2009

SECTION 8.0
REFERENCES



8.0 REFERENCES

- Arizona Department of Commerce. 2004. Community Profile: Sells/Tohono O'odham Reservation website. Internet Address: <http://www.commerce.state.az.us/doclib/commune/sells.pdf>.
- Arizona Department of Commerce. 2005. Pima County Profile – Pima County Unemployment Rate. Internet URL: <http://www.azcommerce.com/doclib/COMMUNE/Pima%20County.pdf>. Last accessed: May 8, 2007.
- Arizona Department of Water Resources (ADWR). 2004. Internet Resource: www.water.az.gov.
- ADWR. 2005. Western Mexican Drainage Basin Information Page. Internet Address: <http://www.water.az.gov/adwr/Content/WaterInfo/OutsideAMAs/LowerColorado/Basins/westernmexicandrainage.html>. Last Accessed: May 2, 2005.
- Arizona Game and Fish Department (AGFD). 2003. *Leptonycteris curasoae yerbabuenae*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 8pp.
- AGFD. 2004. *Echinocactus erectocentrus* var. *acuíñensis*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 7pp.
- Arizona Wilderness Coalition. 2004. What is Wilderness? Internet Address: www.azwild.org/whywild/index.
- Babcock, H.M., Brown, S.C., and Hem, J.D., 1947, Geology and ground-water resources of the Wellton-Mohawk area, Yuma County, Arizona: U.S. Geological Survey Open-File.
- Barry M. Goldwater Range (BMGR). No publication date. Visitors Information Brochure.
- Bugliarello, G., Alexandre, A., Barnes, J., and Wakstein, C. 1976. The Impact of Noise Pollution: A Socio-Technological Introduction. New York: Pergamon Press.
- Bureau of Economic Analysis (BEA). 2005. Total and Full Time Employment by Industry, Pima County, Arizona. Internet URL: <http://www.bea.gov/regional/reis/action.cfm>. Last accessed: May 8, 2007.
- Defenders of Wildlife. 2004. Habitat, National Wildlife Refuges, Arizona, Profiled Refuge: Cabeza Prieta. Internet Address: <http://www.defenders.org/habitat/refuges/map/az.html>.
- Desert USA. 2004a. Organ Pipe Cactus National Monument Description webpage. Internet Address: www.desertusa.com/organ/du_orgdesc.html.
- Desert USA 2004b. Organ Pipe Cactus National Monument Main web page. Internet Address: www.desertusa.com/organ/du_org_main.html.

- Generac Power Systems, Inc. 2004. Technical Perspective: Sound Measurement and Attenuation. Bulletin 0170310SBY. Waukesha, Wisconsin.
- Gilpin, M.E. and Hanski, I. 1991. Metapopulation Dynamics: Empirical and Theroretical Investigations. London: Linnaean Society of London and Academic Press.
- Good Neighbor Environmental Board, 2006. The Ninth Report of the Good Neighbor Environmental Board to the President and Congress of the United States. Pages 34-35. Internet Website: <http://www.epa.gov/ocem/gneb/gneb9threport/English-GNEB-9th-Report.pdf>. Last accessed: August 11, 2006.
- Gulf South Research Corporation. 2007. Air Quality Model Calculations for the Monument 250 Road Improvement Project. Gulf South Research Corporation, Baton Rouge, Louisiana. 5 p.
- Immigration and Naturalization Service (INS). 2001. Programmatic Environmental Impact Statement for the Continuation of Immigration and Naturalization Service /Joint Task Force – Six Operations, Port Arthur, Texas to San Diego, California. U.S. Army Corps of Engineers, Fort Worth District.
- INS 2002. INS, U.S. Border Patrol, U.S. Department of Interior, U.S. Forest Service, U.S. Environmental Protection Agency. 2002. Report to the House of Representatives Committee on Appropriations on Impacts Caused by Undocumented Aliens Crossing Federal Lands in Southeast Arizona.
- Inter Tribal Council of Arizona. 2003. Tohono O'odham Nation Introductory Information web page. Internet Address: www.ictaonline.com/tribes_tohono.html.
- Kralovec, Mary. 2007a. Personal Communication via telephone between Ms. Mary Kralovec of the Organ Pipe Cactus National Monument and Mr. Josh McEnany of Gulf South Research Corporation (GSRC). August 29, 2007.
- Kralovec, Mary. 2007b. Personal Communication via telephone between Ms. Mary Kralovec of the Organ Pipe Cactus National Monument and Mr. Josh McEnany of Gulf South Research Corporation (GSRC). June 13, 2007.
- Leake, Stanley. 2005. Personal Communication via electronic mail from Mr. Stanley Leake of the U.S. Geological Survey to Mr. Josh McEnany of GSRC. June 20, 2005.
- Mid-Atlantic Regional Air Management Association (MARAMA) 2006. Fugitive Dust-Construction Calculation Sheet can be found online at: http://www.marama.org/visibility/Calculation_Sheets/
- NPS. 2003. Environmental Assessment for Proposed Vehicle Barrier, Organ Pipe Cactus National Monument-Coronado National Memorial. December 2003.
- NPS. 2004. Organ Pipe Cactus National Monument webpage. Internet Address: www.nps.gov/orpi/.
- NPS. 2005. Organ Pipe Cactus National Monument Nature & Science Environmental Factors web page. Internet Address: www.nps.gov/orpi/pphtml/environmentalfactors.html.

- Pima County. 2001. Sonoran Desert Conservation Plan. Pima County, Arizona Board of Supervisors. Internet Resource:
<http://www.co.pima.az.us/cmo/sdcp/sdcp2/pvs/pdfs/vulsp.pdf>.
- Pima County Department of Environmental Quality, 2007. Air Info Now. Internet Website:
<http://www.airinfonow.com/html/data.html>.
- Tibbett, Betty. 2005. Personal communication between Betty Tibbett of Why Utility Company, Why, Arizona and Joanna Cezniak, GSRC regarding Why Utility Company's infrastructure availability. Telephone conversation conducted on October 5, 2004.
- Tibbits, Tim. 2007. Personal Communication via telephone between Mr. Tim Tibbits of the Organ Pipe Cactus National Monument and Mr. Josh McEnany of Gulf South Research Corporation (GSRC). November 27, 2007.
- Tuomey, Joe. 2007. Personal Communication via telephone between Mr. Joe Tuomey of the Organ Pipe Cactus National Monument and Mr. Josh McEnany of Gulf South Research Corporation (GSRC). August 29, 2007.
- U.S Census Bureau. 2005. Pima County, Arizona – Fact Sheet – American Fact Finder. Internet URL:
http://factfinder.census.gov/servlet/ACSSAFFacts?_event=Search&geo_id=&_geoContext=&_street=&_county=pima+county&_cityTown=pima+county&_state=04000US04&_zip=&_lang=en&_sse=on&pctxt=fph&pgsl=010. Last accessed: May 8, 2007.
- U.S. Customs and Border Patrol (CBP). 2003. Performance and Annual Report: Fiscal Year 2003.
- U.S. Departments of Air Force, Navy, and Interior. 2006. Final Environmental Impact Statement for the Barry M. Goldwater Range, Proposed Integrated Natural Resource Management Plan. February 2006.
- U.S. Environmental Protection Agency (EPA). 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Report 550/9-47-004.
- EPA. 2006. Welcome to the Green Book Nonattainment Areas for Criteria Pollutants. Internet website: www.epa.gov/oar/oaqps/greenbk
- EPA. 2007a.Enforcement & Compliance History Online (ECHO). Internet Address: <http://www.epa.gov/cgi-bin/ideaotis.cgi>. Last Accessed: May 22, 2007.
- EPA. 2007b.Envirofacts Data Warehouse website. Internet Address: http://www.epa.gov/enviro/index_java.html. Last Accessed: May 22, 2007.
- U.S. Fish and Wildlife Service (USFWS). Endangered and Threatened Wildlife and Plants; Determination of Endangered Status and Critical Habitat for the Desert Pupfish (*Cyprinodon macularius*); Final Rule. Federal Register 51(61):1084210851, March 31, 1986.

- USFWS. 1995. Lesser Long-nosed Bat Recovery Plan. U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 45pp.
- USFWS. 1998. Final Revised Sonoran Pronghorn Recovery Plan, Albuquerque, New Mexico. 70pp.
- USFWS. 2001. Cultural Resources Overview and Assessment for the Cabeza Prieta National Wildlife Refuge. Prepared by SWCA, Inc. (Cultural Resource Report No. 01-24). Tucson, Arizona. Edited by Richard Ahlstrom. August 2001.
- USFWS. 2002. Cabeza Prieta National Wildlife Refuge. Internet Address: <http://www.fws.gov/southwest/refuges/arizona/cabeza.html>.
- USFWS. 2003. Supplement and Amendment to the 1998 Final Revised Sonoran Pronghorn Recovery Plan (*Antilocapra americana sonoriensis*). U.S. Fish and Wildlife Service, Albuquerque, New Mexico. I-iv + 60 pp., A1-3, B1-30, C1-8.
- USFWS. 2005. Cabeza Prieta National Wildlife Refuge Draft Comprehensive Conservation Plan Wilderness Stewardship Plan and Environmental Impact Statement. U.S. Fish and Wildlife Service, Region 2, Albuquerque, New Mexico. January 2005.
- USFWS. 2007. Arizona Threatened, Endangered, and Candidate Species: Pima and Yuma counties. USFWS, Arizona Ecological Services Field Office. Internet Website: <http://arizonaes.fws.gov/>.
- Weist, W.G., 1965, Geohydrology of the Dateland-Hyder area, Maricopa and Yuma Counties, Arizona: Arizona State Land Department Water Resources Report Number 23, 46p.

SECTION 9.0
LIST OF PREPARERS



9.0 LIST OF PREPARERS

The following people were primarily responsible for preparing this Environmental Assessment.

NAME	AGENCY/ORGANIZATION	DISCIPLINE/EXPERTISE	EXPERIENCE	ROLE IN PREPARING EA
Patience E. Patterson, RPA	Architect-Engineer Resource Center	Archaeology	29 years, Professional Archeologist/Cultural Resource Manager	Project Manager, cultural resources review, and EA coordination
Charles McGregor	USACE, Fort Worth District, AERC	NEPA	10 years Environmental Management and Review	ECSO Project Manager, EA review and coordination
Suna Adam Knaus	Gulf South Research Corporation	Forestry/Wildlife	17 years, natural resources	EA review
Eric Webb, Ph.D.	Gulf South Research Corporation	Ecology/Wetlands	15 years experience in natural resources and NEPA studies	EA technical review
Chris Ingram	Gulf South Research Corporation	Biology/ Ecology	30 years EA/EIS studies	Project Coordinator/EA technical review
Josh McEnany	Gulf South Research Corporation	Forestry/Wildlife	7 years, natural resources and NEPA studies	Project Manager
Sharon Newman	Gulf South Research Corporation	GIS/graphics	11 years, GIS/graphics experience	GIS/graphics
Howard Nass	Gulf South Research Corporation	Forestry/Wildlife	17 years, natural resources	EA review
Shanna McCarty	Gulf South Research Corporation	Forestry	3 years natural resources	EA preparation
Steve Kolian	Gulf South Research Corporation	Environmental Science	10 years natural resources	EA preparation
Joanna Cezniak	Gulf South Research Corporation	Wildlife	9 years natural resources	EA preparation

THIS PAGE LEFT INTENTIONALLY BLANK

SECTION 10.0
ACRONYMS

10.0 ACRONYMS

AO	Area of Operation
ACHP	Advisory Council on Historic Preservation
ADWR	Arizona Department of Water Resources
AGFD	Arizona Game and Fish Department
ARPA	Archeological Resources Protection Act
BEA	Bureau of Economic Analysis
BMP	Best Management Practice
BMGR	Barry M. Goldwater Range
CAA	Clean Air Act
CBP	U.S. Customs and Border Protection
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CPNWR	Cabeza Prieta National Wildlife Refuge
CWA	Clean Water Act
DNL	Day-Night average sound Level
dB	Decibel
dBA	A-weighted Decibel
DHS	Department of Homeland Security
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
E.O.	Executive Order
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
FR	Federal Register
GNEB	Good Neighbor Environmental Board
GSRC	Gulf South Research Corporation
IA	Illegal Alien
INS	Immigration and Naturalization Service
JTF-6	Joint Task Force Six
MBTA	Migratory Bird Treaty Act
MARAMA	Mid-Atlantic Regional Air Management Association
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NOA	Notice of Availability
NOI	Notice of Intent
OPCNM	Organ Pipe Cactus National Monument
PCDEQ	Pima County Department of Environmental Quality
PCPI	Per Capita Personal Income
POE	Port of Entry
POL	Petroleum, Oils, and Lubricants
PVB	Permanent Vehicle Barrier
ROI	Region of Influence

SHPO	State Historic Preservation Officer
SPCCP	Spill Prevention, Control, and Countermeasures Plan
SPEIS	Supplemental Programmatic Environmental Impact Statement
SWPPP	Storm Water Pollution Prevention Plan
TON	Tohono O'odham Nation
TPI	Total Personal Income
TVB	Temporary Vehicle Barrier
U.S.	United States
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
USFWS	U.S. Fish and Wildlife Service
WSC	Wildlife of Special Concern
WMDB	Western Mexican Drainage Basin

APPENDIX A
March 2006 Memorandum of Understanding

**Memorandum of Understanding
Among
U. S. Department of Homeland Security
and
U. S. Department of the Interior
and
U. S. Department of Agriculture
Regarding
Cooperative National Security and Counterterrorism
Efforts on Federal Lands along the United States' Borders**

I. Purpose and Scope

A. This Memorandum of Understanding (MOU) is made and entered into by the Department of Homeland Security (DHS), including and on behalf of its constituent bureau U.S. Customs and Border Protection (CBP) and the CBP Office of Border Patrol (CBP-BP); the Department of the Interior (DOI), including and on behalf of its constituent bureaus, the National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), and the Bureau of Reclamation (BOR); and the Department of Agriculture (USDA), including and on behalf of its constituent agency the U.S. Forest Service (USFS). Throughout this MOU, these three Departments, including their constituent agencies, may be referred to as "the Parties." Any reference to a bureau, agency, or constituent component of a Party shall not be deemed to exclude application to any appropriate bureau or constituent component of that Party. DHS recognizes that the BIA enters into this agreement only on its own behalf and not on behalf of any Indian tribe.

B. The geographic and jurisdictional scope of this MOU is nationwide. The Parties recognize the national security and counterterrorism significance of preventing illegal entry into the United States by cross-border violators (CBVs), including but not limited to the following: drug and human smugglers and smuggling organizations, foreign nationals, and terrorists and terrorist organizations. The Parties further recognize that damage to DOI and USDA-managed lands and natural and cultural resources is often a significant consequence of such illegal entry. The Parties are committed to preventing illegal entry into the United States, protecting Federal lands and natural and cultural resources, and - where possible - preventing adverse impacts associated with illegal entry by CBVs.

C. This MOU is intended to provide consistent goals, principles, and guidance related to border security, such as law enforcement operations; tactical infrastructure installation; utilization of roads; minimization and/or prevention of significant impact on or impairment of natural and cultural resources; implementation of the Wilderness Act, Endangered Species Act, and other related environmental law, regulation, and policy across land management agencies; and provide for coordination and sharing information

on threat assessments and other risks, plans for infrastructure and technology improvements on Federal lands, and operational and law enforcement staffing changes. This MOU provides guidance in the development of individual agreements, where appropriate, between CBP and land management agencies to further the provisions contained herein.

D. This MOU is entered into pursuant to the governing statutory authorities of each of the Parties.

E. The Parties acknowledge that CBP operation and construction within the sixty-foot "Roosevelt Reservation" of May 27, 1907 (along the US-Mexico border) and the sixty-foot "Taft Reservation" of May 3, 1912 (along the US-Canada border) is consistent with the purpose of those reservations and that any CBP activity (including, but not limited to, operations and construction) within the sixty-foot reservations is outside the oversight or control of Federal land managers.

F. This MOU supersedes any conflicting provision of any prior MOU or Memorandum of Agreement between the Parties or their subordinate bureaus or components.

II. Background

A. DHS, through its constituent bureaus (including CBP and its CBP-BP), is statutorily mandated to control and guard the Nation's borders and boundaries, including the entirety of the northern and southern land and water borders of the United States.

B. DOI and USDA, through their constituent bureaus, are statutorily charged as managers of Federal lands throughout the United States, including DOI and USDA lands in the vicinity of international borders that are administered as wilderness areas, conservation areas, national forests, wildlife refuges, units/irrigation projects of the Bureau of Reclamation, and/or units of the national park system. Tribal governments have primary management roles over tribal lands; however, the United States, through the BIA, may also have a stewardship or law enforcement responsibility over these lands. Many of these Federal and tribal lands contain natural and cultural resources that are being degraded by activities related to illegal cross-border movements.

C. The volume of CBVs can and has, in certain areas, overwhelmed the law enforcement and administrative resources of Federal land managers. In order to more effectively protect national security, respond to terrorist threats, safeguard human life, and stop the degradation of the natural and cultural resources on those lands, DOI and USDA land managers will work cooperatively with CBP to benefit from the enforcement presence, terrorist and CBV interdiction, and rescue operations of CBP.

III. Common Findings and Affirmation of the Parties

A. The Parties to this MOU recognize that CBP-BP access to Federal lands can facilitate rescue of CBVs on Federal lands, protect those lands from environmental damage, have a role in protecting the wilderness and cultural values and wildlife resources of these lands, and is necessary for the security of the United States. Accordingly, the Parties understand that CBP-BP, consistent with applicable Federal laws and regulations, may access public lands and waterways, including access for purposes of tracking, surveillance, interdiction, establishment of observation points, and installation of remote detection systems.

B. The Parties recognize that DOI and USDA have responsibility for enforcing Federal laws relating to land management, resource protection, and other such functions on Federal lands under their jurisdiction.

IV. Responsibilities and Terms of Agreement

A. The Parties Agree to the Following Common Goals, Policies, and Principles:

1. The Parties enter into this MOU in a cooperative spirit with the goals of securing the borders of the United States, addressing emergencies involving human health and safety, and preventing or minimizing environmental damage arising from CBV illegal entry on public lands;
2. The Parties will strive to both resolve conflicts at and delegate resolution authority to the lowest field operational level possible while applying the principles of this MOU in such manner as will be consistent with the spirit and intent of this MOU;
3. The Parties will develop and consistently utilize an efficient communication protocol respecting the chain of command for each of the Parties that will result in the consistent application of the goals, policies, and principles articulated in this MOU, and provide a mechanism that will, if necessary, facilitate the resolution of any conflicts among the Parties. If resolution of conflict does not occur at the local level, then the issue will be elevated first to the regional/sector office; if not resolved at the regional/sector level, then the issue will be elevated to the headquarters level for resolution;
4. The Parties will cooperate with each other to complete, in an expedited manner, all compliance that is required by applicable Federal laws not otherwise waived in furtherance of this MOU. If such activities are authorized by a local agreement as described in sub-article IV.B below, then the DOI, USDA, and CBP will complete the required compliance before executing the agreement;

5. The Parties will cooperate with each other to identify methods, routes, and locations for CBP-BP operations that will minimize impacts to natural, cultural, and wilderness resources resulting from CBP-BP operations while facilitating needed CBP-BP access;
6. The Parties will, as necessary, plan and conduct joint local law enforcement operations consistent with all Parties' legal authorities;
7. The Parties will establish a framework by which threat assessments and other intelligence information may be exchanged, including intelligence training to be conducted by all parties so that the intelligence requirements of each may be identified and facilitated;
8. The Parties will establish forums and meet as needed at the local, regional, and national levels to facilitate working relationships and communication between all Parties;
9. The Parties will develop and share joint operational strategies at the local, regional, and national levels, including joint requests for infrastructure and other shared areas of responsibility;
10. The Parties will share the cost of environmental and cultural awareness training unless otherwise agreed; and
11. The Parties will, as appropriate, enter into specific reimbursable agreements pursuant to the Economy Act, 31 U.S.C. §1535 when one party is to furnish materials or perform work or provide a service on behalf of another party.

B. Responsibilities and Terms Specific to DOI and USDA. The DOI and the USDA hereby recognize that, pursuant to applicable law, CBP-BP is authorized to access the Federal lands under DOI and USDA administrative jurisdiction, including areas designated by Congress as wilderness, recommended as wilderness, and/or wilderness study areas, and will do so in accordance with the following conditions and existing authorities:

1. CBP-BP agents on foot or on horseback may patrol, or pursue, or apprehend suspected CBVs off-road at any time on any Federal lands administered by the Parties;
2. CBP-BP may operate motor vehicles on existing public and administrative roads and/or trails and in areas previously designated by the land management agency for off-road vehicle use at any time, provided that such use is consistent with presently authorized public or administrative use. At CBP-BP's request, the DOI and the USDA will provide CBP-BP with keys, combinations, or other means necessary to

access secured administrative roads/trails. CBP-BP may drag existing public and administrative roads that are unpaved for the purpose of cutting sign, subject to compliance with conditions that are mutually agreed upon by the local Federal land manager and the CBP-BP Sector Chief. For purposes of this MOU, "existing public roads/trails" are those existing roads/trails, paved or unpaved, on which the land management agency allows members of the general public to operate motor vehicles, and "existing administrative roads/trails" are those existing roads/trails, paved or unpaved, on which the land management agency allows persons specially authorized by the agency, but not members of the general public, to operate motor vehicles;

- 3 CBP-BP may request, in writing, that the land management agency grant additional access to Federal lands (for example, to areas not previously designated by the land management agency for off-road use) administered by the DOI or the USDA for such purposes as routine patrols, non-emergency operational access, and establishment of temporary camps or other operational activities. The request will describe the specific lands and/or routes that the CBP-BP wishes to access and the specific means of access desired. After receiving a written request, the local Federal land manager will meet promptly with the CBP-BP Sector Chief to begin discussing the request and negotiating the terms and conditions of an agreement with the local land management agency that authorizes access to the extent permitted by the laws applicable to the particular Federal lands. In each agreement between CBP-BP and the local land management agency, the CBP-BP should be required to use the lowest impact mode of travel and operational setup reasonable and practicable to accomplish its mission. The CBP-BP should also be required to operate all motorized vehicles and temporary operational activities in such a manner as will minimize the adverse impacts on threatened or endangered species and on the resources and values of the particular Federal lands. However, at no time should officer safety be compromised when selecting the least impactful conveyance or operational activity. Recognizing the importance of this matter to the Nation's security, the CBP-BP Sector Chief and the local Federal land manager will devote to this endeavor the resources necessary to complete required compliance measures in order to execute the local agreement within ninety (90) days after the Federal land manager has received the written request for access. Nothing in this paragraph is intended to limit the exercise of applicable emergency authorities for access prior to the execution of the local agreement. The Secretaries of the Interior, Agriculture, and Homeland Security expect that, absent compelling justification, each local agreement will be executed within that time frame and provide the maximum amount of access requested by the CBP-BP and allowed by law;

4. Nothing in this MOU is intended to prevent CBP-BP agents from exercising existing exigent/emergency authorities to access lands, including authority to conduct motorized off-road pursuit of suspected CBVs at any time, including in areas designated or recommended as wilderness, or in wilderness study areas when, in their professional judgment based on articulated facts, there is a specific exigency/emergency involving human life, health, safety of persons within the area, or posing a threat to national security, and they conclude that such motorized off-road pursuit is reasonably expected to result in the apprehension of the suspected CBVs. Articulated facts include, but are not limited to, visual observation; information received from a remote sensor, video camera, scope, or other technological source; fresh "sign" or other physical indication; canine alert; or classified or unclassified intelligence. For each such motorized off-road pursuit, CBP-BP will use the least intrusive or damaging motorized vehicle readily available, without compromising agent or officer safety. In accordance with paragraph IV.C.4, as soon as practicable after each such motorized off-road pursuit, CBP-BP will provide the local Federal land manager with a brief report;
5. If motorized pursuits in wilderness areas, areas recommended for wilderness designation, wilderness study areas, or off-road in an area not designated for such use are causing significant impact on the resources, or if other significant issues warrant consultation, then the Federal land manager and the CBP-BP will immediately meet to resolve the issues subject to paragraphs IV.A.2 and IV.A.3 of this MOU;
6. CBP may request, in writing, that the land management agency authorize installation or construction of tactical infrastructure for detection of CBVs (including, but not limited to, observation points, remote video surveillance systems, motion sensors, vehicle barriers, fences, roads, and detection devices) on land under the local land management agency's administrative jurisdiction. In areas not designated as wilderness, the local Federal land manager will expeditiously authorize CBP to install such infrastructure subject to such terms and conditions that are mutually developed and articulated in the authorization issued by the land management agency. In areas designated or managed as wilderness, the local Federal land manager, in consultation with CBP, will promptly conduct a "minimum requirement," "minimum tool," or other appropriate analysis. If supported by such analysis, the local Federal land manager will expeditiously authorize CBP to install such infrastructure subject to such terms and conditions that are mutually developed and articulated in the authorization issued by the land management agency;

7. The DOI and USDA will provide CBP-BP agents with appropriate environmental and cultural awareness training formatted to meet CBP-BP operational constraints. The DOI and USDA will work with CBP-BP in the development and production of maps for use or reference by CBP-BP agents including, as appropriate, site-specific and resource-specific maps that will identify specific wildlife and environmentally or culturally sensitive areas;
8. The DOI and USDA will, as applicable, provide CBP-BP with all assessments and studies done by or on behalf of DOI or USDA on the effects of CBVs on Federal lands and native species to better analyze the value of preventative enforcement actions;
9. The DOI and USDA will assist CBP-BP in search and rescue operations on lands within the respective land managers' administration when requested;
10. The CBP-BP and land management agencies may cross-deputize or cross-designate their agents as law enforcement officers under each other agency's statutory authority. Such cross-deputation or cross-designation agreements entered into by the local land management agency and the field operations manager for the CBP-BP shall be pursuant to the policies and procedures of each agency; and
11. DOI and USDA will work at the field operations level with affected local CBP-BP stations to establish protocols for notifying CBP-BP agents when DOI or USDA law enforcement personnel are conducting law enforcement operations in an area where CBP-BP and DOI/USDA operations can or will overlap.

C. Responsibilities and Terms Specific to the CBP. DHS hereby agrees as follows:

1. Consistent with the Border Patrol Strategic Plan, CBP-BP will strive to interdict CBVs as close to the United States' international borders as is operationally practical, with the long-term goal of establishing operational control along the immediate borders;
2. If the CBP-BP drag any unpaved roads for the purpose of cutting sign under provision IV.B.2 above, then CBP-BP will maintain or repair such roads to the extent that they are damaged by CBP-BP's use or activities;
3. If CBP-BP agents pursue or apprehend suspected CBVs in wilderness areas or off-road in an area not designated for such use under

paragraph IV.B.5, then the CBP-BP will use the lowest impact mode of travel practicable to accomplish its mission and operate all motorized vehicles in such a manner as will minimize the adverse impacts on threatened or endangered species and on the resources and values of the particular Federal lands, provided officer safety is not compromised by the type of conveyance selected;

4. CBP-BP will notify the local Federal land manager of any motorized emergency pursuit, apprehension, or incursion in a wilderness area or off-road in an area not designated for such use as soon as is practicable. A verbal report is sufficient unless either CBP-BP or the land managing agency determines that significant impacts resulted, in which case a written report will be necessary;
5. If motorized pursuits in wilderness areas, areas recommended for wilderness designation, wilderness study areas, or off-road in an area not designated for such use are causing significant impact on the resources as determined by a land manager, or if other significant issues warrant consultation, then the CBP-BP and Federal land manager will immediately meet to resolve the issues subject to paragraphs IV.A.2 and IV.A.3 of this MOU;
6. CBP will consult with land managers to coordinate the placement and maintenance of tactical infrastructure, permanent and temporary video, seismic and other remote sensing sites in order to limit resource damage while maintaining operational efficiency;
7. CBP-BP will ensure that current and incoming CBP-BP agents attend environmental and cultural awareness training to be provided by the land management agencies;
8. CBP-BP will provide land management agencies with appropriate and relevant releasable statistics of monthly CBV apprehensions, search and rescue actions, casualties, vehicles seized, drug seizures and arrests, weapons seizures and arrests, and other significant statistics regarding occurrences on the lands managed by the land manager;
9. CBP-BP will consult with land managers in the development of CBP-BP's annual Operational-Requirements Based Budgeting Program to ensure affected land managers can provide input and are, in the early stages of planning, made aware what personnel, infrastructure, and technology the CBP-BP would like to deploy along the border within their area of operation; and
10. CBP-BP will work at the field operations manager level with affected local land management agencies to establish protocols for notifying

land management agency law enforcement officers when BP is conducting special operations or non-routine activities in a particular area.

V. Miscellaneous Provisions

A. Nothing in this MOU may be construed to obligate the agencies or the United States to any current or future expenditure of funds in advance of the availability of appropriations, nor does this MOU obligate the agencies or the United States to spend funds for any particular project or purpose, even if funds are available.

B. Nothing in this MOU will be construed as affecting the authority of the Parties in carrying out their statutory responsibilities.

C. This MOU may be modified or amended in writing upon consent of all Parties, and other affected Federal agencies may seek to become a Party to this MOU.

D. The Parties shall retain all applicable legal responsibility for their respective personnel working pursuant to this MOU with respect to, *inter alia*, pay, personnel benefits, injuries, accidents, losses, damages, and civil liability. This MOU is not intended to change in any way the individual employee status or the liability or responsibility of any Party under Federal law.

E. The Parties agree to participate in this MOU until its termination. Any Party wishing to terminate its participation in this MOU shall provide sixty (60) days written notice to all other Parties.

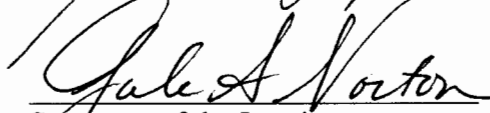
F. This document is an intra-governmental agreement among the Parties and does not create or confer any rights, privileges, or benefits upon any person, party, or entity. This MOU is not and shall not be construed as a rule or regulation.

In witness whereof, the Parties hereto have caused this Memorandum of Understanding to be executed and effective as of the date of the last signature below.

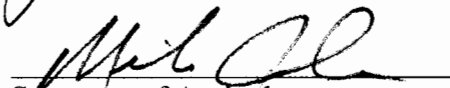
Date: 3/24/06


Secretary of Homeland Security

Date: 3/31/06


Secretary of the Interior

Date: 3/29/06


Secretary of Agriculture

APPENDIX B
List of State and Federal Protected Species for Pima County

Pima County

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Large, adults have white head and tail. Height 28-38 inches; wingspan 66-96 inches. Dark with varying degrees of mottled brown plumage. Feet bare of feathers.	Apache, Cochise, Coconino, Gila, Graham, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	Varies	Large trees or cliffs near water (reservoirs, rivers, and streams) with abundant prey.	Some birds are nesting residents while a larger number winters along rivers and reservoirs. An estimated 200 to 300 birds winter in Arizona. Once endangered (32 FR 4001, 03-11-1967; 43 FR 6233, 02-14-78) because of reproductive failures from pesticide poisoning and loss of habitat, this species was down listed to threatened on August 11, 1995. Illegal shooting, disturbance, and loss of habitat continues to be a problem. Species has been proposed for delisting (64 FR 36454) but still receives full protection under the ESA.
California Brown pelican	<i>Pelecanus occidentalis californicus</i>	Endangered	Large dark gray-brown water bird with a pouch underneath long bill and webbed feet. Adults have a white head and neck, brownish black breast, and silver gray upper parts.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	Varies	Coastal land and islands; species found around many Arizona lakes and rivers.	Subspecies is found on Pacific Coast and is endangered due to pesticides. It is an uncommon transient in Arizona on many Arizona lakes and rivers. Individuals wander up from Mexico in summer and fall. No breeding records in Arizona.
Chiricahua leopard frog	<i>Rana chiricahuensis</i>	Threatened	Cream colored tubercles (spots) on a dark background on the rear of the thigh, dorsolateral folds that are interrupted and deflected medially, and a call given out of water distinguish this spotted frog from other leopard frogs.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, Navajo, Pima, Santa Cruz, Yavapai	3300-8900 ft	Streams, rivers, backwaters, ponds, and stock tanks that are mostly free from introduced fish, crayfish, and bullfrogs.	Require permanent or nearly permanent water sources. Populations north of the Gila River may be a closely-related, but distinct, undescribed species. A special rule allows take of frogs due to operation and maintenance of livestock tanks on State and private lands.
Desert pupfish	<i>Cyprinodon macularius</i>	Endangered	Small (2 inches) smoothly rounded body shape with narrow vertical bars on the sides. Breeding males blue on head and sides with yellow on tail. Females and juveniles tan to olive colored back and silvery sides.	Graham, La Paz, Maricopa, Pima, Pinal, Santa Cruz, Yavapai	< 5,000 ft	Shallow springs, small streams, and marshes. Tolerates saline and warm water.	Critical habitat includes Quitobaquito Springs, Pima County, portions of San Felipe Creek, Carrizo Wash, and Fish Creek Wash, Imperial County, California. Two subspecies are recognized: Desert Pupfish (<i>C.m.macularis</i>) and Quitobaquito Pupfish (<i>C.m.eremus</i>).

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Gila chub	<i>Gila intermedia</i>	Endangered	Deep compressed body, flat head. Dark olive-gray color above, silver sides. Endemic to Gila River Basin.	Cochise, Gila, Graham, Greenlee, Maricopa, Pima, Pinal, Santa Cruz, Yavapai	2,000 - 5,500 ft	Pools, springs, cienegas, and streams.	Found on multiple private lands, including the Nature Conservancy, the Audubon Society, and others. Also occurs on Federal and state lands and in Sonora, Mexico. Critical habitat occurs in Cochise, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz and Yavapai counties.
Gila topminnow	<i>Poeciliopsis occidentalis occidentalis</i>	Endangered	Small (2 inches), guppy-like, live bearing, lacks dark spots on its fins. Breeding males are jet black with yellow fins.	Gila, Graham, La Paz, Maricopa, Pima, Pinal, Santa Cruz, Yavapai	< 4,500 ft	Small streams, springs, and cienegas vegetated shallows.	Species historically occurred in backwaters of large rivers but is currently isolated to small streams and springs.
Huachuca water umbel	<i>Lilaeopsis schaffneriana</i> ssp. <i>recurva</i>	Endangered	Herbaceous, semi-aquatic perennial in the parsley family (Umbelliferae) with slender erect, hollow, leaves that grow from the nodes of creeping rhizomes. Flower: 3 to 10 flowered umbels arise from root nodes.	Cochise, Pima, Santa Cruz	3500-6500 ft	Cienegas, perennial low gradient streams, wetlands.	Species also occurs in adjacent Sonora, Mexico, west of the continental divide. Critical habitat in Cochise and Santa Cruz counties (64 FR 37441, July 12, 1999).
Jaguar	<i>Panthera onca</i>	Endangered	Largest species of cat native to Southwest. Muscular, with relatively short, massive limbs, and a deep-chested body. Usually cinnamon-buff in color with many black spots. Weights ranges from 40-135 kg (90-300 lbs).	Cochise, Santa Cruz, Pima	1,600 - >9,000 ft	Found in Sonoran desertscrub up through subalpine conifer forest.	Also occurs in New Mexico. A Jaguar conservation team is being formed that is being led by Arizona and New Mexico state entities along with private organizations.
Kearney blue star	<i>Amsonia kearneyana</i>	Endangered	A herbaceous perennial about 2 feet tall in the dogbane family (Apocynaceae). Thickened woody root and many pubescent (hairy) stems that rarely branch. Flowers: white terminal inflorescence in April and May.	Pima	3600-3800 ft	West-facing drainages in the Baboquivari Mountains.	Plants grow in stable, partially shaded, coarse alluvium along a dry wash in the Baboquivari Mountains. Range is extremely limited. Protected by Arizona Native Plant Law.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Lesser long-nosed bat	<i>Leptonycteris curasoae yerbabuenae</i>	Endangered	Elongated muzzle, small leaf nose, and long tongue. Yellowish brown or gray above and cinnamon brown below. Tail minute and appears to be lacking. Easily disturbed.	Cochise, Gila, Graham, Greenlee, Pima, Pinal, Maricopa, Santa Cruz	< 6000 ft	Desert scrub habitat with agave and columnar cacti present as food plants.	Day roosts in caves and abandoned tunnels. Forages at night on nectar, pollen, and fruit of paniculate agaves and columnar cacti. This species is migratory and is present in Arizona usually from April to September and south of the border the remainder of the year.
Masked bobwhite	<i>Colinus virginianus ridgewayi</i>	Endangered	Males brick-red breast and black head and throat. Females are generally nondescript but resemble other races such as the Texas bobwhite.	Pima	1000-4000 ft	Desert grasslands with diversity of dense native grasses, forbs, and brush.	Species is closely associated with <i>Acacia angustissima</i> . Formerly occurred in Altar and Santa Cruz valleys, as well as Sonora, Mexico. Presently only known from reintroduced populations on Buenos Aires NWR.
Mexican spotted owl	<i>Strix occidentalis lucida</i>	Threatened	Medium sized with dark eyes and no ear tufts. Brownish and heavily spotted with white or beige.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai	4100-9000 ft	Nests in canyons and dense forests with multi-layered foliage structure.	Generally nest in older forests of mixed conifer or ponderosa pine/gambel oak type, in canyons, and use variety of habitats for foraging. Sites with cool microclimates appear to be of importance or are preferred. Critical habitat was finalized on August 31, 2004 (69 FR 53182). Critical habitat in Arizona occurs in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Navajo, Pima, Pinal, Santa Cruz, and Yavapai counties.
Nichol Turk's head cactus	<i>Echinocactus horizonthalonius var. nicholii</i>	Endangered	Blue-green to yellowish-green, columnar, 18 inches tall, 8 inches in diameter. Spine clusters have 5 radial and 3 central spines; one downward short; 2 spines upward and red or vasally gray. Flower: pink fruit: woolly white.	Pima, Pinal	2400-4100 ft	Sonoran desertscrub.	Found in unshaded microsites in Sonoran desertscrub on dissected alluvial fans at the foot of limestone mountains and on inclined terraces and saddles on limestone mountain sides.
Ocelot	<i>Leopardus (=Felis) pardalis</i>	Endangered	Medium-sized spotted cat whose tail is about 1/2 the length of head and body. Yellowish with black streaks and stripes running from front to back. Tail is spotted and face is less heavily streaked than the back and sides.	Cochise, Pima, Santa Cruz	< 8000 ft	Humid tropical and sub-tropical forests, savannahs, and semi-arid thornscrub.	May persist in partly-cleared forests, second-growth woodland, and abandoned cultivated areas reverted to brush. Universal component is presence of dense cover. Unconfirmed reports of individuals in the southern part of the State continue to be received.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Pima pineapple cactus	<i>Coryphantha scheeri</i> var. <i>robustispina</i>	Endangered	Hemispherical stems 4-7 inches tall 3-4 inches diameter. Central spine 1 inch long straw colored hooked surrounded by 6-15 radial spines. Flower: yellow, salmon, or rarely white narrow floral tube..	Pima, Santa Cruz	2300-5000 ft	Sonoran desertscrub or semi-desert grassland communities.	Occurs in alluvial valleys or on hillsides in rocky to sandy or silty soils. This species can be confused with juvenile barrel cactus (<i>Ferocactus</i>). However, the spines of the later are flattened, in contrast with the round cross-section of the <i>Coryphantha</i> spines. 80-90% of individuals on state or private land.
Sonoran pronghorn	<i>Antilocapra americana sonoriensis</i>	Endangered	Buff on back and white below, hoofed with slightly curved black horns having a single prong. Smallest and palest of the pronghorn subspecies	Maricopa, Pima, Yuma	500 - 2,000 ft	Broad intermountain alluvial valleys with creosote-bursage and palo verde-mixed cacti associations.	Typically, bajadas are used as fawning areas and sandy dune areas provide food seasonally. Historical range was probably larger than exists today. This subspecies also occurs in Mexico.
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	Endangered	Small passerine (about 6 inches) grayish-green back and wings, whitish throat, light olive-gray breast and pale yellowish belly. Two wingbars visible. Eye-ring faint or absent.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	<8500 ft	Cottonwood/willow and tamarisk vegetation communities along rivers and streams.	Migratory riparian-obligate species that occupies breeding habitat from late April to September. Distribution within its range is restricted to riparian corridors. Difficult to distinguish from other members of the <i>Empidonax</i> complex by sight alone. Training seminar required for those conducting flycatcher surveys. Critical habitat was finalized on October 19, 2005 (50 CFR 60886) and can be viewed at http://arizonaes.fws.gov . In Arizona there are critical habitat segments in Apache, Cochise, Gila, Graham, Greenlee, Maricopa, Mohave, Pima, Pinal, and Yavapai counties.
Acuna cactus	<i>Echinomastus erectocentrus</i> var. <i>acunensis</i>	Candidate	<12 inches high; spine clusters borne on tubercles, each with a groove on the upper surface. 2-3 central spines and 12 radial spines. Flowers pink to purple.	Pima, Pinal	1300-2000 ft	Well drained knolls and gravel ridges in Sonoran desertscrub.	Immature plants distinctly different from mature plants. They are disc-shaped or spherical and have no central spines until they are about 1.5 inches. Radial spines are dirty white with maroon tips.
Sonoyta mud turtle	<i>Kinosternon sonoriense longifemorale</i>	Candidate	Primarily a pond turtle, prefers mud or sandy bottoms. Body 3 1/2 to 6 1/2 inches. Head and neck mottled with contrasting light and dark markings. Found in Quitobaquito Springs.	Pima	1,100 ft	Ponds and streams.	Species also found in Rio Sonoyta, Sonora, Mexico.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate	Medium-sized bird with a slender, long-tailed profile, slightly down-curved bill, which is blue-black with yellow on the lower half of the bill. Plumage is grayish-brown above and white below, with rufous primary flight feathers.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 6,500 ft	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).	Listing was found warranted, but precluded as a distinct vertebrate population segment in the western U.S. on July 25, 2001. This finding indicates that the Service has sufficient information to list the bird, but other, higher priority listing actions prevent the Service from addressing the listing of the cuckoo at this time.
Gooddings onion	<i>Allium gooddingii</i>	Conservation Agreement	Herbaceous perennial plant; broad, flat, rather blunt leaves; flowering stalk 14-17 inches tall, flattened, and narrowly winged toward apex; fruit is broader than long; seeds are short and thick.	Apache, Greenlee, Pima	> 7,500 ft	Forested drainage bottoms and on moist north facing slopes of mixed conifer and spruce fir forests.	Conservation agreement between the Service and the Forest Service signed in February 1998. In New Mexico on the Lincoln and Gila National Forests.
San Xavier talussnail	<i>Sonorella eremita</i>	Conservation Agreement	Land snail, less than one inch in diameter (about .75 inches), 4.5 whorls, round shell, white to pinkish tint.	Pima	3,850-3,920 ft	Deep, limestone rockslide with outcrops of limestone and decomposed granite.	Conservation agreement signed by the Service, Arizona Game and Fish Department, El Paso Natural Gas Company, and Arizona Electric Power Cooperative, Inc. in September 1998.

**Special Status Species Documented within 5 Miles of the US/Mexico Border in the Organ
Pipe Cactus National Monument**

NAME	COMNAME	ESA	USFS	BLM	STATE
<i>Anthocharis cethura</i>	Felder's Orange Tip		S		
<i>Antilocapra americana sonoriensis</i>	Sonoran Pronghorn	LE	S		WSC
<i>Aspidoscelis burti xanthonota</i>	Red-back Whiptail	SC	S		
<i>Charina trivirgata trivirgata</i>	Mexican Rosy Boa	SC		S	
<i>Chionactis palarostris organica</i>	Organ Pipe Shovel-nosed Snake		S		
<i>Coccyzus americanus occidentalis</i>	Western Yellow-billed Cuckoo	C	S		WSC
<i>Cyprinodon eremus</i>	Quitobaquito Desert Pupfish	LE			WSC
<i>Echinomastus erectocentrus</i> var. <i>acunensis</i>	Acuna Cactus	C			HS
<i>Eumops perotis californicus</i>	Greater Western Bonneted Bat	SC			
<i>Eumops underwoodi</i>	Underwood's Bonneted Bat	SC		S	
<i>Ferocactus emoryi</i>	Emory's Barrel-cactus				SR
<i>Gastrophryne olivacea</i>	Great Plains Narrow-mouthed Toad				WSC
<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy-owl	SC			WSC
<i>Gopherus agassizii</i> (Sonoran Population)	Sonoran Desert Tortoise	SC			WSC
<i>Kinosternon sonoriense longifemorale</i>	Sonoyta Mud Turtle	C	S		
<i>Leptonycteris curasoae yerbabuenae</i>	Lesser Long-nosed Bat	LE	S		WSC
<i>Lophocereus schottii</i>	Senita				SR
<i>Macrotus californicus</i>	California Leaf-nosed Bat	SC			WSC
<i>Mammillaria thornberi</i>	Thornber Fishhook Cactus				SR
<i>Myotis velifer</i>	Cave Myotis	SC		S	
<i>Nyctinomops femorosaccus</i>	Pocketed Free-tailed Bat			S	
<i>Peniocereus striatus</i>	Dahlia Rooted Cereus				SR
<i>Phyllorhynchus browni lucidus</i>	Maricopa Leaf-nosed Snake		S		
<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	LE			WSC
<i>Stenocereus thurberi</i>	Organ Pipe Cactus				SR
<i>Tryonia quitobaquitae</i>	Quitobaquito Tryonia	SC	S		
<i>Tumamoca macdougalii</i>	Tumamoc Globeberry		S	S	SR
<i>Tyrannus melancholicus</i>	Tropical Kingbird				WSC

Designated Critical Habitat for the Quitobaquito Desert Pupfish within project area.

Arizona Game and Fish Department, Heritage Data Management System, May 7, 2007.

APPENDIX C
Correspondence

United States Department of the Interior
U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 FAX: (602) 242-2513

In Reply Refer To:
AESO/SE
22410-2008-F-0011

February 11, 2008

Mr. George Hutchinson
U.S. Department of Homeland Security
Customs and Border Protection
1300 Pennsylvania Avenue NW
Room 3.4-D
Washington, D.C. 20229

RE: Biological Opinion for the Proposed Installation of 5.2 Miles of Primary Fence near
Lukeville, Arizona

Dear Mr. Hutchinson:

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). You requested initiation of formal consultation on September 17, 2007. At issue are impacts that may result from your proposed primary fence project on Organ Pipe Cactus National Monument in Pima County, Arizona. The proposed action may affect Sonoran pronghorn (*Antilocapra americana sonoriensis*) and lesser long-nosed bats (*Leptonycteris curasoae yerbabuenae*).

This biological opinion is based on information provided in the "Final Environmental Assessment for the Proposed Installation of 5.2 Miles of Primary Fence near Lukeville, Arizona - U.S. Border Patrol, Tucson Sector, November 2007" (EA) and other sources of information as described in the consultation history. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern; primary fence installation and maintenance activities and their effects; road improvement and maintenance activities and their effects; or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at the Phoenix, Arizona, Ecological Services Office (AESO).

CONSULTATION HISTORY

- June 11, 2007: We received your¹ June 4, 2007, request for information on threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may occur in your proposed project area.
- July 10, 2007: We sent you a letter that included the aforementioned information you requested as well as other recommendations to consider during the preparation of your Environmental Assessment for the project.
- September 17, 2007: We received your “Draft Environmental Assessment for the Proposed Installation of 5.2 Miles of Primary Fence near Lukeville, Arizona - U.S. Border Patrol, Tucson Sector, September 2007” and August 14, 2007, letter requesting our concurrence that the Installation of 5.2 Miles of Primary Fence near Lukeville, Border Patrol (BP) Tucson Sector Project, Pima County, Arizona (proposed project), may affect, but is not likely to adversely affect, the federally endangered lesser long-nosed bat and will have no effect on the endangered Sonoran pronghorn.
- October 9, 2007: We held a conference call with Chris Ingram and Josh McEnany of Gulf South Research Corporation (GSRC) to discuss the project’s effects on the Sonoran pronghorn and lesser long-nosed bat. During the call, GSRC revised the determination and concluded that the project may result in adverse effects to both species and that formal section 7 consultation is warranted.
- October 12, 2007: We received your electronic mail confirming the aforementioned revision.
- October 19, 2007: We sent you a letter initiating formal consultation. This letter also included a request for information needed to complete our Biological Opinion.
- December 3, 2007: We received an electronic mail from GSRC with the Final EA attached.
- December 19, 2007: We received your electronic mail inquiring about the status of our Draft BO and informing us that the Final EA was submitted to our office. In a separate electronic mail you stated that the Final EA addressed all requests in our October 19, 2007, letter. We sent you an electronic mail stating that the Final EA did not address all of our requests, but that it contained enough information to start working on the Biological Opinion. A conference call was scheduled for January 8, 2008, to discuss outstanding information needs.
- January 8 to February 5, 2007: We had numerous conference calls to discuss outstanding concerns and information needs regarding your project. During these calls we agreed to a

¹ For the purposes of this biological opinion, “your” and “you” means either Customs and Border Protection or the Army Corps of Engineers.

number of conservation measures that are now incorporated into the “Description of the Proposed Action” of this biological opinion.

- February 6, 2008: We received your electronic mail providing the conservation measures that CBP will implement as part of this project.
- February 6, 2008: We sent you our draft biological opinion for the project.

BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

U.S. Customs and Border Protection (CBP) and U.S. Border Patrol (USBP) propose to construct and maintain 5.2 miles of primary fence along the U.S.-Mexico border near Lukeville, Arizona to help agents and officers gain effective control of the border. The proposed action, summarized below, is described in detail in the “Final Environmental Assessment for the Proposed Installation of 5.2 Miles of Primary Fence near Lukeville, Arizona - U.S. Border Patrol, Tucson Sector, November 2007” (EA), as well as electronic mail correspondence from Army Corps of Engineers (ACOE) and GSRC to FWS, and notes from conference calls with CBP, ACOE, and GSRC. The project corridor (Figure 1) is within the Organ Pipe Cactus National Monument (OPCNM) and encompasses 5.2 linear miles of the U.S. - Mexico border, including 3.1 miles to the east and 2.1 miles to the west of the Lukeville Port of Entry (POE); the project area is described in the Final EA.

Approximately 4.55 miles of primary fence will be installed approximately 6 feet north of the U.S.-Mexico border on either side of the Lukeville POE and 3 feet north of the existing Permanent Vehicle Barriers (PVBs). Approximately 0.65 mile of primary fence over Sonoyta Hill (also known as Monument Hill) will be installed 3 feet north of the U.S.-Mexico border. Construction activities associated with the installation of 4.55 miles of fence will occur entirely within the 60-foot Roosevelt Reservation² (RR); construction of the 0.65 mile of fence will require a footprint of 150 feet, 90 feet beyond the RR.

The fence will be made of 9-gauge mesh and though the final design will be developed by the design/build contractor, at a minimum, it must extend 15 feet above ground and three to six feet below ground; not impede the natural flow of water; and result only in minimal impacts on small animal movements (see EA for a complete list of minimum fence requirements). Furthermore, in most washes or arroyos, the fence will be designed and constructed to ensure proper conveyance

² The 60-foot wide Roosevelt Reservation along the border was set aside from public use, with the exception of public highways, as a protection against the smuggling of goods between the U.S. and Mexico by Presidential Proclamation in 1907 by President Theodore Roosevelt. The Roosevelt Reservation includes all lands under Federal ownership in California, Arizona and New Mexico at the time the proclamation was signed, creating a formal border enforcement zone between the U.S. and Mexico (International Boundary Commission 1936).

of floodwaters and to eliminate the potential to cause backwater flooding on either side of the U.S.-Mexico border. During rain events the USBP will be responsible for ensuring that debris does not become wedged against the fence creating backwater flooding.

An existing patrol road that parallels the border for 4.55 miles of the project corridor will be used for access during construction and subsequent maintenance of most of the fence (no improvement to this portion of the road is proposed). To install and maintain primary fence over Sonoyta Hill, west of the Lukeville POE, a new road will be constructed. The existing South Puerto Blanco Road will be used for construction access and maintenance of the Sonoyta Hill portion of the fence. Staging areas and turnarounds for the project will be located in previously disturbed areas, within the RR, to minimize potential effects to the environment. Between 5.2 and 11.4 acre-feet (1.7 to 3.7 million gallons) of water for fence and road construction-related activities will be required. All water will be trucked into the project site from sources north of the OPCNM (i.e., Why, Ajo, or Gila Bend).

A total of about 45 acres (12 acres within the 150-foot wide footprint [this represents 5 acres within the RR and 7 acres outside of the RR] and 33 acres within the 60-foot wide footprint) will be permanently disturbed. About 17 acres of the total footprint have been previously disturbed from the construction of the existing PVBs. Within the project footprint, up to 206 saguaros and 295 organ pipe cacti will be removed or salvaged (85 percent of these occur within the 0.65-mile project corridor over Sonoyta Hill).

The road and fence will be maintained by the USBP on an as-needed basis to ensure the integrity of the road and fence is not compromised. All project personnel will not exceed a speed limit of 25 miles per hour within OPCNM during construction and maintenance related activities (excluding travel on Highway 85). The number of vehicles traveling to and from the project site and the number of trips per day will be minimized to reduce the likelihood of disturbing pronghorn in the area or injuring an animal on the road. The project is expected to be completed by December 2008. Nighttime construction is not anticipated, however, it may occur.

CBP anticipates that the fence will facilitate increased border control within the 5.2-mile project corridor. Therefore, the enforcement resources once used for security in that area will be more available to respond to illegal activity on either side of the fence. Furthermore, CBP aims to interdict illegal activity as close to the border as possible.

Conservation Measures

To reduce impacts to the environment, CBP and their representatives (i.e., ACOE, contractors, and consultants) will implement a number of Environmental Design and Conservation Measures, including: 1) demarcate the project area to be impacted before construction begins; 2) implement a Stormwater Pollution Prevention Plan (SWPPP), including pre- and post-construction Best Management Practices (BMPs) identified in the SWPPP; 3) implement erosion

control techniques; 4) construct the fence in arroyos in a way that ensures proper conveyance of floodwaters and that eliminates the potential for backwater flooding on either side of the U.S.-Mexico border; 5) remove debris from the fence immediately after rain events to ensure that no backwater flooding occurs; 6) comply with the Migratory Bird Treaty Act; 7) check all construction-related holes and trenches on a daily-basis and immediately remove and relocate all animals that have fallen in the holes and trenches away from the site (>100 feet) (checking may be done by anyone on-site; however, removal of animals will be done by a qualified biologist); and 8) clean construction equipment prior to entering OPCNM to minimize the spread and establishment of non-native and invasive species. A biological monitor will be on-site daily to ensure project compliance (i.e., ensure contractors are staying within the demarcated impact area; move animals, such as desert tortoise, out of the project corridor; etc.). When contractors are working on the western slope of Sonoyta Hill, the biological monitor will conduct surveys for Sonoran pronghorn as close to dawn as possible. If Sonoran pronghorn are detected within 0.62 mile of project activities, no project work will begin until pronghorn move on their own volition to a distance greater than 0.62 mile from the activities. All contractors, work crews (including National Guard and military personnel), and CBP personnel in the field performing construction and maintenance activities would receive training on the habitat and habits of species found in the project area, including information on how to avoid impacts to the species from their activities.

To help offset impacts to lesser long-nosed bat foraging habitat and other natural resources, CBP and their representatives will (or provide funding for): 1) in close coordination with OPCNM, salvage all columnar cacti less than three feet tall to the extent practicable (approximately 74 saguaro and 68 organ pipe cacti³) and attempt to salvage columnar cacti between three and six feet (approximately 41 saguaro and 55 organ pipe cacti³) that face danger of destruction within the project corridor as determined by the biological monitor and that have been identified using GPS-technology (either by GSRC or OPCNM), as well as about 20 barrel cacti; 2) transport the salvaged cacti to an area, likely the OPCNM nursery, where they will be temporarily planted in prepared beds; 3) care for them until they are ready to be replanted; and 4) replant (water and monitor) them in areas to be restored within OPCNM (as identified in the restoration plan-see below). The contractor responsible for constructing the fence will also be responsible for cactus salvage and transportation, as well as care until funds become available through the programmatic mitigation agreement (explained below). Non-salvageable plants destroyed in the project corridor and not needed for on-site erosion control or restoration, as determined by an erosion-control/restoration specialist and OPCNM staff, will be hauled away to an appropriate disposal site outside of OPCNM.

³ During a recent survey (February 2008), OPCNM staff counted a total of 140 salvageable saguaros and 112 salvageable organ pipe cacti. These numbers differ from those provided by GSRC; however, regardless of the exact number, all saguaros and organ pipe determined to be salvageable within the project footprint will be salvaged.

To help offset impacts to lesser long-nosed bats, Sonoran pronghorn, and other natural resources CBP will provide funding in the amount of \$955,000.00⁴ to restore 84 acres (to be identified by OPCNM personnel) within OPCNM, including illegal roads and trails within the Monument. We anticipate that about 60 percent of the restoration will benefit the conservation of the lesser long-nosed bat and about 40 percent will benefit the Sonoran pronghorn. A restoration plan will be developed and implemented by a qualified Sonoran Desert restoration specialist, in close coordination with OPCNM. Development of the plan will be the responsibility of the fence contractor, however, implementation of it will be the responsibility of DOI. The plan will be completed within 6 months of the issuance of the biological opinion and, among other components, will include replanting, watering as needed, and monitoring the success of salvaged cacti; eradication of non-native invasive species; and general maintenance and monitoring of the restoration areas for 5 years. No restoration will occur within the project footprint, as the area will be needed for future CBP operations; however, non-native invasive plants will be monitored and controlled in the area for three years.

To aid in the conservation and recovery of pronghorn and to help offset potential impacts to pronghorn that may occur as a result of this project, the CBP will provide funding to the FWS to fill a Sonoran pronghorn water for 10 years at a cost per year of \$2,500.00 (for a total of \$25,000).

The aforementioned funding (\$955,000 and \$25,000) will be incorporated within a programmatic mitigation agreement between Department of Homeland Security/CBP and Department of the Interior (DOI)/FWS. Once funding is provided to DOI through this agreement, DOI will be responsible for implementing the restoration plan and filling the Sonoran pronghorn water.

SONORAN PRONGHORN STATUS OF THE SPECIES

A. Description, Legal Status, and Recovery Planning

The Sonoran subspecies of pronghorn (*Antilocapra americana sonoriensis*) was first described by Goldman (1945) and is the smallest of the five subspecies of pronghorn (Nowak and Paradiso 1983). The subspecies was listed throughout its range as endangered on March 11, 1967 (32 FR 4001) under the Endangered Species Preservation Act of October 15, 1966 without critical habitat. Three sub-populations of the Sonoran pronghorn are extant: 1) a U.S. sub-population in southwestern Arizona, 2) a sub-population in the Pinacate Region of northwestern Sonora, and 3) a sub-population on the Gulf of California west and north of Caborca, Sonora. The three sub-populations are geographically isolated due to barriers such as roads and fences, and in the case of the two Sonora sub-populations, by distance.

⁴ These funds will also be used to pay for the care of salvaged cactus at the temporary holding facility until they are ready to be replanted. If the salvage occurs before the funds are available, the salvaged cactus will be cared for by CBP or their representatives until the funds become available.

The 1982 Sonoran Pronghorn Recovery Plan (U.S. Fish and Wildlife Service 1982) was revised in 1998 (U.S. Fish and Wildlife Service 1998). The recovery criteria presented in the revised plan entailed the establishment of a population of 300 adult pronghorn in one self-sustaining population for a minimum of five years, as well as the establishment of at least one other self-sustaining population in the U.S. to reclassify the subspecies to threatened. Actions identified as necessary to achieve these goals include the following: 1) enhance present sub-populations of pronghorn by providing supplemental forage and/or water; 2) determine habitat needs and protect present range; 3) investigate and address potential barriers to expansion of presently used range and investigate, evaluate, and prioritize present and potential future reintroduction sites within historical range; 4) establish and monitor a new, separate herd(s) to guard against catastrophes decimating the core population, and investigate captive breeding; 5) continue monitoring sub-populations and maintain a protocol for a repeatable and comparable survey technique; and 6) examine additional specimen evidence available to assist in verification of taxonomic status. In 2001 a supplement and amendment to the 1998 Final Revised Sonoran Pronghorn Recovery Plan was prepared (U.S. Fish and Wildlife Service 2001). We concluded that data do not yet exist to support establishing delisting criteria. Tasks necessary to accomplish reclassification to threatened status (as outlined in the 1998 plan) should provide the information necessary to determine if and when delisting will be possible and what the criteria should be.

B. Life History and Habitat

Sonoran pronghorn inhabit one of the hottest and driest portions of the Sonoran Desert. They forage on a large variety of perennial and annual plant species (Hughes and Smith 1990, Hervert *et al.* 1997b, U.S. Fish and Wildlife Service 1998). During drought years, Hughes and Smith (1990) reported cacti were the major dietary component (44 percent). Consumption of cacti, especially chain fruit cholla (*Cylindropuntia fulgida*, Pinkava 1999), provides a source of water during hot, dry conditions (Hervert *et al.* 1997b). Other important plant species in the diet of the pronghorn include pigweed (*Amaranthus palmeri*), ragweed (*Ambrosia* sp.), locoweed (*Astragalus* sp.), brome (*Bromus* sp.), and snakeweed (*Gutierrezia sarothrae*) (U.S. Fish and Wildlife Service 1998). Pronghorn will move in response to spatial limitations in forage availability (Hervert *et al.* 1997a). Water intake from forage is not adequate to meet minimum water requirements (Fox *et al.* 2000), hence pronghorn need and readily use both natural and artificial water sources (Morgart *et al.* 2005).

Sonoran pronghorn rut during July-September, and does have been observed with newborn fawns from February through May. Parturition corresponds with annual spring forage abundance. Fawning areas have been documented in the Mohawk Dunes and the bajadas of the Sierra Pinta, Mohawk, Bates, Growler, and Puerto Blanco mountains. Does usually have twins, and fawns suckle for about 2 months. Does gather with fawns, and fawns sometimes form nursery groups (U.S. Fish and Wildlife Service 1998). Sonoran pronghorn form small herds of up to 21 animals (Wright and deVos 1986).

Telemetry locations of 35 Sonoran pronghorn demonstrated that during 1995-2002, pronghorn used creosote/bursage and palo verde/mixed cactus vegetation associations less than expected or equal to availability. Pronghorn use of palo verde/chain fruit cholla associations and desert washes occurred more than expected. However, during the cool and wet winter on 1997-1998, pronghorn were found in creosote/bursage associations more than expected (Hervert *et al.* 2005). In contrast, during 1983-1991, pronghorn used creosote/bursage and palo verde mixed cacti associations more than expected (deVos and Miller 2005). Differences between these study results may be due in part to differences in precipitation and forage patterns between these periods. The earlier period was wetter with greater forage availability in flats and valleys where creosote/bursage associations predominate. In wet winters and early spring pronghorn are often found in flats and valleys, such as Pinta Sands, the Mohawk Dunes west of the Mohawk Mountains, and the west side of the Aguila Mountains. In late spring and summer, pronghorn then move from the flats and valleys upslope into bajadas and often south or southeast where palo verde associations, chain fruit cholla, and washes are more common. Movements are most likely motivated by the need for thermal cover provided by leguminous trees and water available in succulent chain fruit cholla (Hervert *et al.* 1997b). Home range size of Sonoran pronghorn during 1995-2002 ranged from 16.6 to 1,109 mi², with an average of 197 ± 257 mi² (Hervert *et al.* 2005).

From 1995-2002, adult mortality rates varied from 11-83%. Adults were killed by coyotes, bobcats, mountain lions, capturing efforts, drought, and unknown causes (Bright and Hervert 2005). However, during 1983-1991, apparently a more favorable period for pronghorn during which the population grew significantly, mean annual survival of females and males was $96\% \pm 0.04$ and $92\% \pm 0.04$ (DeVos and Miller 2005). Disease may affect mortality, but has not been thoroughly investigated (Bright and Hervert 2005). Hervert *et al.* (2000) found that the number of fawns surviving until the first summer rains was significantly correlated to the amount of preceding winter rainfall, and negatively correlated to the number of days without rain between the last winter rain and the first summer rain. Drought may be a major factor in the survival of adults and fawns (Bright and Hervert 2005). Three radio-collared pronghorn died in July and August of 2002 with no obvious cause of death. Given that 2002 was one of the driest years on record, the proximate cause of these mortalities was likely heat stress and/or malnutrition resulting from inadequate forage conditions due to drought.

C. Distribution and Abundance

United States

Historically, the Sonoran pronghorn ranged in the U.S. from approximately the Santa Cruz River in the east, to the Gila Bend and Kofa Mountains to the north, and to Imperial Valley, California, to the west (Mearns 1907, Nelson 1925, Monson 1968, Wright and deVos 1986, Paradiso and Nowak 1971; Figure 2). Bright *et al.* (2001) defined the present U.S. range of the Sonoran pronghorn as bordered by Interstate 8 to the north, the International Border to the south, the Copper and Cabeza mountains to the west, and SR 85 to the east (see Figure 3). This area encompasses 2,508 mi² (Bright *et al.* 2001).

While Mearns (1907) suggested that pronghorn may have been common in some areas in the late 1800s, evidence suggests that the sub-population declined dramatically in the early 20th century. Sub-population estimates for Arizona, which only began in 1925, have never shown the pronghorn to be abundant (Table 1). Repeatable, systematic surveys were not conducted in Arizona until 1992. Since 1992, Sonoran pronghorn in the United States have been surveyed biennially (Bright *et al.* 1999, 2001) using aerial line transects (Johnson *et al.* 1991). Sub-population estimates from these transects have been derived using three different estimators (Table 2); currently the sightability model (Samuel and Pollock 1981) is considered the most reliable estimator (Bright *et al.* 1999, 2001). Table 2 presents observation data from transects and compares estimates derived from the three population models from 1992 through 2006.

The sightability model population estimates from 1992 to 2000 showed a 45 percent decrease in sub-population size (Table 2). The estimates indicate a steady decline in sub-population size, with the exception of the 1994 survey. The 1994 estimate may be somewhat inflated due to inconsistencies in survey timing (U.S. Fish and Wildlife Service 1998, Bright *et al.* 2001). High fawn mortality in 1995 and 1996 and the death of half (8 of 16) of the adult, radio-collared pronghorn during the 13 months preceding the December 1996 survey corresponded to five consecutive six-month seasons of below normal precipitation (summer 1994 through summer 1996) throughout most of the Sonoran pronghorn range, which likely contributed, in part, to observed mortality (Bright *et al.* 2001, Hervert *et al.* 1997b).

Mortality of Sonoran pronghorn in 2002 was exceptionally high (Bright and Hervert 2005). At the start of the year, seven radio-collared Sonoran pronghorn were at large in the U.S. sub-population. By December 2002, all but one of these had died. For most, drought stress was considered to be the proximate cause. For those animals that may have succumbed to predation, it was suspected that drought stress was again a factor, by making the animal more vulnerable to predation, due to an emaciated physical condition and being forced into predator habitats by drought. The 2002 drought was one of the driest on record. As an example, annual rainfall at the OPCNM visitor center was only 2.54 inches in 2002 (T. Tibbitts, Organ Pipe Cactus NM, pers. comm. 2002); *average* annual rainfall for the visitor center is 9.2 inches (Brown 1982). The November/December 2002 population survey revealed the U.S. sub-population had declined to the lowest level ever recorded. A total of 18 pronghorn were observed, in three groups (8, 9, and 1). The sightability model resulted in a population estimate of 21 animals, or a 79% decline from 2000. Also, very few fawns survived in 2002 to replace these dying adults.

Although drought was likely the proximate cause of the dramatic decline of the U.S. sub-population in 2002, anthropogenic factors almost certainly contributed to or exacerbated the effects of the drought. Historically, pronghorn likely moved to wetted areas and foraged along the Rio Sonoyta, Sonora, and the Gila and probably Colorado rivers during drought. These areas are no longer accessible to the U.S. population due to fences, Interstate 8, Mexico Highway 2, and other barriers. The rate of decline in the U.S. sub-population from 2000-2002 (79 percent) was also much greater than that observed in either the sub-population southeast of Highway 8 (18 percent decline) or the El Pinacate sub-population (26 percent) during the same period (see discussion of Mexican sub-populations in the next section). Observations of forage availability

suggest the El Pinacate sub-population experienced the same severe drought that occurred on the Arizona side (T. Tibbitts, J. Morgart, pers. comm. 2003). Yet that sub-population fared much better than its U.S. counterpart. The high level of human activities and disturbance on the U.S. side, particularly in regard to undocumented alien traffic, smugglers, and required law enforcement response, as compared to what occurs in the El Pinacate area, is a likely contributing factor in the differing rates of decline observed north and south of the border. See the section entitled “Drought” in the Environmental Baseline and “Cumulative Effects” for further discussion.

The December 2004 survey resulted in an estimated 58 wild pronghorn in the U.S. sub-population, a substantial increase brought on by favorable conditions since 2002. Based on casual surveys and estimated fawn survival, the population in 2005 was roughly 75 wild pronghorn. Based on a December 2006 aerial survey, the U.S. sub-population was estimated at 68 (Table 2). Based, again, on casual surveys as well as aerial tracking of ten telemetered pronghorn, the 2007 wild population is now estimated at about 70.

Semi-captive breeding facility

As part of a comprehensive emergency recovery program, adult pronghorn were first captured and placed into a semi-captive breeding facility at CPNWR in 2004. There are currently (as of January 2008) 37 pronghorn in the enclosure. Two yearling bucks were released from the pen into the wild herd in November 2006, and another two were released in January 2007. The objective is to produce 10-25 fawns each year to be released into the U.S. sub-population, and potentially to establish a second U.S. sub-population at Kofa NWR. Planning for the second herd is underway. Various alternatives are being considered, but a second herd could be established in King Valley of Kofa NWR within five years. A captive facility with a forage enhancement plot, and development of waters in King Valley would likely be needed. The population would probably be introduced as an experimental, nonessential population under section 10(j) of the Act.

Mexico

Historically, Sonoran pronghorn ranged in Sonora from the Arizona border south to Hermosillo and Kino Bay, west to at least the Sierra del Rosario, and east to the area south of the Baboquivari Valley on the Tohono O’odham Nation (Nelson 1925, Carr 1974, Monson 1968). The distribution in Baja California Norte is less clear, but observations by Mearns (1907) indicate they occurred in the Colorado Desert west of the Colorado River, as well. Sonoran pronghorn are currently extant in two sub-populations in Mexico, including: (1) Pinacate sub-population west of Highway 8 near the Pinacate Lava flow; and (2) north and west of Caborca and southeast of Highway 8.

Sub-populations of Sonoran pronghorn in Sonora had not been thoroughly surveyed until the December 2000 surveys (Bright *et al.* 2001), at which time 346 pronghorn were estimated to occur in Sonora. Although the 1993 estimate was approximate, survey results suggested a decline in the sub-populations of 16 percent from 1993 to 2000 (Table 3). The two Mexico sub-populations were resurveyed in December 2002. A grand total (both El Pinacate and southeast

of Highway 8) of 214 pronghorn in 32 groups were seen for a tentative population estimate of 280, indicating further decline. Only 19 pronghorn were observed in the Pinacate area for an estimate of 25, which is a decline of 26% from the 2000 estimate. Surveys conducted in December 2004 and February 2005 demonstrated that the population southeast of Highway 8 increased to 625 (439 observed), while the Pinacate population increased to 59 (30 observed). In January 2006, surveys indicated that pronghorn numbers are remaining steady with an estimated total of 634 (486 observed) individuals (combined for both populations). Nine of these were captured, of which five were fitted with radio-collars and released and four were transferred to the semi-captive breeding facility in the U.S.

Population Viability Analysis

In 1996, a workshop was held in which a population viability analysis (PVA) was conducted for the U.S. sub-population of Sonoran pronghorn (Defenders of Wildlife 1998). A PVA is a structured, systematic, and comprehensive examination of the interacting factors that place a population or species at risk (Gilpin and Soulé 1986). Based on the best estimates of demographic parameters at the time, the likelihood of extinction of Sonoran pronghorn was calculated as one percent in the next 25 years, nine percent in the next 50 years, and 23 percent in the next 100 years. More severe threats include population fluctuation, periodic decimation during drought (especially of fawns), small present population size, limited habitat preventing expansion to a more secure population size, and expected future inbreeding depression. At populations of less than 100, population viability declined at an increasingly steep rate. To maintain genetic diversity over the long term, a population of at least 500 is desirable (Defenders of Wildlife 1998). The likelihood of extinction increased markedly when fawn mortality exceeded 70 percent. Thus, a 30 percent fawn crop (30 fawns/100 does) each year is necessary to ensure the continuance of the U.S. sub-population. The authors concluded that “this population of the Sonoran pronghorn, the only one in the U.S., is at serious risk of extinction.” The authors made these conclusions prior to the severe drought and decline in the species in 2002. On the other hand, Hosack *et al.* (2002) found that some management actions were possible that could improve the chances of population persistence significantly. Actions that would ameliorate the effects of drought or minimize mortality of pronghorn were of particular importance for improving population persistence.

E. Threats

Barriers that Limit Distribution and Movement

Highways, fences, railroads, developed areas, and irrigation canals can block access to essential forage or water resources. Highways 2 and 8 in Sonora, and SR 85 between Gila Bend and Lukeville, Arizona support a considerable amount of fast-moving vehicular traffic, and are fenced in some areas, and are likely a substantial barrier to Sonoran pronghorn. Interstate 8, the Wellton-Mohawk Canal, agriculture, a railroad, and associated fences and human disturbance near the Gila River act as barriers for northward movement of pronghorn. De-watering of reaches of the Río Sonoyta and lower Gila River, and barriers to pronghorn accessing the Gila River, such as Interstate 8 and the Wellton-Mohawk Canal, have caused significant loss of habitat and loss of access to water (Wright and deVos 1986). Agricultural, urban, and

commercial development at Sonoyta, Puerto Peñasco, and San Luis Río Colorado, Sonora; in the Mexicali Valley, Baja California Norte; and at Ajo, Yuma, and along the Gila River, Arizona, have further removed habitat and created barriers to movement.

Human-caused Disturbance

A variety of human activities occur throughout the range of the pronghorn that have the potential to disturb pronghorn or its habitat, including livestock grazing in the U.S. and Mexico; military activities; recreation; poaching and hunting; clearing of desert scrub and planting of buffelgrass (*Pennisetum ciliare*) in Sonora; gold mining southeast of Sonoyta, dewatering and development along the Gila River and Río Sonoyta; increasing undocumented immigration and drug trafficking across the international border and associated required law enforcement response; and roads, fences, canals, and other artificial barriers.

Studies of captive pronghorn, other than the Sonoran subspecies, have shown that they are sensitive to disturbance such as human presence and vehicular noise. Human traffic, such as a person walking or running past pronghorn in an enclosed pen, a motorcycle driving past, a truck driving past, a truck blowing its horn while driving past, or a person entering a holding pen, caused an increased heart-rate response in American pronghorn in half-acre holding pens (Workman *et al.* 1992). The highest heart rates occurred in female pronghorn in response to a person entering a holding pen, or a truck driving past while sounding the horn. The lowest heart rates occurred when a motorcycle or truck was driven past their pen. Pronghorn were more sensitive to helicopters, particularly those flying at low levels or hovering, than fixed wing aircraft. Other investigators have shown that heart rate increases in response to auditory or visual disturbance in the absence of overt behavioral changes (Thompson *et al.* 1968, Cherkovich and Tatoyan 1973, Moen *et al.* 1978). Hughes and Smith (1990) found that pronghorn immediately ran 1,310-1,650 feet from a vehicle. Krausman *et al.* (2001, 2004, 2005a) examined effects of military aircraft and ground-based activities on Sonoran pronghorn at the North and South TACs on the Barry M. Goldwater Range (BMGR) and concluded that military activities, both ground-based and aerial, were associated with some changes in behavior (e.g., from standing to trotting or running, or bedded to standing) but the authors concluded that these changes were not likely to be detrimental to the animals. Sightings of pronghorn were biased towards disturbed habitats on the TACs and other areas of military activities, which also corresponded to areas of favorable ephemeral forage production (Krausman *et al.* 2005a). No conclusions could be drawn about effects of military activities on fawns due to poor fawn productivity during the Krausman *et al.* study. During times of drought, disturbances that cause pronghorns to startle and run would energetically have a more significant effect. Such energetic expenditures, particularly during times of stress, may lead to lower reproductive output and/or survival of individual animals (Geist 1971).

Habitat Disturbance

Livestock grazing has the potential to significantly alter pronghorn habitat and behavior (Leftwich and Simpson 1978, Kindschy *et al.* 1982, Yoakum *et al.* 1996). Overgrazing well into the 19th century by Spaniards and their descendants caused widespread habitat changes throughout much of the Sonoran Desert, particularly in more settled areas such as central Sonora,

Mexico (Sheridan 2000). The effects of cattle grazing are largely historical; cattle were removed from OPCNM, CPNWR, and the BMGR in 1979, 1983, and 1986, respectively (U.S. Fish and Wildlife Service 1998, Rutman 1997). In 2004, the Bureau of Land Management (BLM) closed the Cameron Allotment on the borders of CPNWR and OPCNM, but grazing still occurs in the nearby Childs and Coyote Flat allotments near Ajo. In Sonora, livestock grazing occurs at Pozo Nuevo and at Ejido Puerto Peñasco, but cattle typically stay close to feed and water except in seasons with abundant annual growth when cattle range widely in the Pinacate region.

Mining occurred historically throughout much of the U.S. range of the pronghorn, but is currently not a significant threat to Sonoran pronghorn in the U.S. During recent pronghorn surveys in Mexico, increasing effects from gold mining activities were noted in habitats used by the sub-population located southeast of Highway 8.

Illegal crossings by undocumented immigrants and drug smugglers in the U.S. range of the pronghorn have increased dramatically in recent years. In 2001, estimates of undocumented migrants traffic reached 1,000 per night in OPCNM alone (Organ Pipe Cactus National Monument 2001), and an estimated 150,000 people entered the monument illegally from Mexico (Milstead and Barns 2002). Apprehensions of illegal immigrants and smugglers by the Ajo Station of the Tucson USBP Sector increased from 2837 in 1997 to 6327 in 2005 (personal communication with David BeMiller, February 10, 2006). From October 2005 to February 2006, 6908 apprehensions were made by the Ajo Station (personal communication with David BeMiller, February 10, 2006). The Wellton Station of the Yuma USBP Sector made 2080 apprehensions in fiscal year 2005 and 3339 apprehensions from October 2005 to February 2006 (personal communication with David BeMiller, February 10, 2006). USBP agents have indicated, however, that apprehensions have recently decreased due to USBP presence at Camp Grip (electronic mail from David Guzewich, February 8, 2008). Illegal border-related activities and required USBP response have resulted in widespread habitat degradation and increased human presence in remote areas. For instance, all the valleys at Cabeza Prieta NWR are now criss-crossed with a network of north-south roads and trails, even though those areas are designated as wilderness. Illegal immigrants and smugglers have shifted their activities to more remote areas, including Sonoran pronghorn habitat in southwestern Arizona, as USBP has been able to successfully gain control of more urban areas. There is anecdotal evidence that pronghorn are avoiding areas of high illegal traffic and law enforcement activities (personal communication with Curtis McCasland, CPNWR, 2007).

Fire

The winter and spring of 2004/2005 were very wet, resulting in some of the highest productivity of cool season annual plants in recent memory. As these annual plants dried out, they created fuel for wildfire. In 2005, Mediterranean grass combined with high densities of the native wooly plantain (*Plantago ovata*) and other species created fuels adequate to carry fire. Military training, such as strafing and bombing in the tactical ranges, as well as fires set by illegal immigrants or smugglers, provided the ignition sources. Exact numbers are unknown; however, in 2005 roughly 7,500 acres of pronghorn habitat burned on the CPNWR (personal communication with Curtis McCasland, CPNWR, February 15, 2006) and more than 63,000

acres burned on the BMGR-East during that time. Approximately 29,260 acres of pronghorn habitat were consumed as a result of these fires.

Most Sonoran Desert trees, shrubs, and cacti are poorly adapted to fire (Brown and Minnich 1986, Schwalbe *et al.* 2000, Alford and Brock 2002). If areas burn repeatedly, permanent changes are likely in the flora. Even in the best scenario it is likely to be many years before trees once again provide thermal cover in wash communities and cholla recover to a point that they are useful forage plants for pronghorn. In 2007, pronghorn were attracted to the burned areas, which often supported better growth of annual plants and forbs than adjacent unburned areas. However, in the long term and if these areas continue to burn, removal of thermal cover (trees) and chain fruit cholla, which they depend on in drought, would likely adversely affect pronghorn and probably limit the use of these areas to wetter and cooler periods and seasons.

Drought

As discussed, drought may be a major factor in the survival of adults and fawns (Bright and Hervet 2005), and the major decline in 2002 was driven by drought. Mean annual temperatures rose 2.0-3.1 °F in the American Southwest in the 20th century, and are predicted to rise 8.1-11.0 °F in the 21st century. Most of the observed increases in globally averaged temperatures since the mid-20th century are very likely due to the observed increases in anthropogenic greenhouse gas concentrations (Intergovernmental Panel on Climate Change 2007). In the Sonoran Desert, anthropogenic climate change is causing warming trends in winter and spring, decreased frequency of freezing temperatures, lengthening of the freeze-free season, and increased minimum temperatures in winter, which will likely cause changes in vegetation communities (Weiss and Overpeck 2005). These increases in temperature are predicted to be accompanied by a more arid climate in the Southwest (Seager *et al.* 2007, Intergovernmental Panel on Climate Change 2007). As a result, the Sonoran pronghorn is expected to be confronted with more frequent drought, which increases the importance of recovery actions, such as forage enhancement plots and water developments, which can offset the effects of drought.

Small Population Size and Random Changes in Demographics

At populations of less than 100, population viability declines at an increasingly steep rate. To maintain genetic diversity over the long term, a population of at least 500 is desirable (Defenders of Wildlife 1998). At an estimated 21 in 2002, and roughly 70 wild pronghorn in 2007, the U.S. sub-population is critically endangered and is going through a genetic bottleneck. At an estimated 25 in 2002 and 59 in 2004, the Pinacate sub-population is also well below desired numbers. At 625, the third sub-population (southeast of Highway 8) is marginally large enough to maintain genetic diversity. Loss of the U.S. sub-population would dramatically reduce our ability to manage or recover this subspecies. Populations at low levels may experience random variations in sex ratios, age distributions, and birth and death rates among individuals, which can cause fluctuations in population size and possibly extinction (Richter-Dyn and Goel 1972). In very sparse populations, males may have trouble finding females, reducing productivity (Ehrlich and Roughgarden 1987). Small populations are also sensitive to variations in natural processes, such as drought and predation (Hecht and Nickerson 1999).

Disease

Sonoran pronghorn can potentially be infected by a variety of viral and bacterial diseases. Blood testing has shown pronghorn exposure to these diseases by increases in antibody titers over time. The diseases relevant to pronghorn can be transmitted indirectly through vectors, such as infected midges or ticks, or directly via aerosolized or direct contact of infected fluids or tissues. Diseases that potentially infect pronghorn are all serious diseases of cattle, which can act as vectors. Cattle within the current range of the pronghorn have not been tested for these diseases.

ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, state, or private actions in the action area; the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation; and the impact of state and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform from which to assess the effects of the action now under consultation.

A. Action Area

The “action area” means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. Within the U.S. portion of the Sonoran pronghorn’s range, pronghorn interact to form one sub-population in which interbreeding may occur. The U.S. sub-population is effectively separated from sub-populations in the El Pinacate Region and on the Gulf Coast of Sonora by Mexico Highways 2 and 8. Activities that may affect animals in any portion of the U.S. range of the pronghorn may affect the size or structure of the U.S. sub-population, or habitat use within the U.S. range. The action area for this biological opinion is defined as the current range of the pronghorn within the U.S. (Figure 3), plus areas along the border 3.1 miles to the east and 2.1 miles to the west of the Lukeville POE.

Management of the action area is almost entirely by Federal agencies. The BMGR (roughly 1.6 million acres) is managed by Luke Air Force Base and MCAS-Yuma primarily for military training. OPCNM manages 329,000 acres in the southeastern corner of the action area for scenic, ecological, natural, and cultural values. CPNWR lies along the border west of OPCNM and encompasses 860,000 acres. CPNWR is managed to protect, maintain, and restore the diversity of the Sonoran Desert. Most of the refuge and OPCNM are designated as wilderness. The BLM manages lands near Ajo for recreation, grazing, and other multiple uses in accordance with the Lower Gila Resource Management Plan. OPCNM and CPNWR are critically important for Sonoran pronghorn recovery because of their management for protection of natural resources. Lands on the BMGR are managed primarily for military training, and although important recovery is ongoing on these lands and the Department of Defense has generously contributed to the recovery program both on and off the BMGR, changing military priorities could, in the future, limit the value of the BMGR for Sonoran pronghorn recovery.

B. Terrain, Vegetation Communities, and Climate in the Action Area

The action area is characterized by broad alluvial valleys separated by block-faulted mountains and surface volcanics. The Yuma Desert on the western edge of the BMGR is part of a broad valley that includes the Colorado River. Major drainages and mountain ranges run northwest to southeast. Major drainages flow mostly northward to the Gila River, although southern portions of OPCNM and the southern slope of the Agua Dulce Mountains drain south to the Río Sonoyta.

Climate is characterized by extreme aridity, mild winters, and hot summers. Approximately 2.7 inches of precipitation fall annually at Yuma, with slightly more than half of this occurring in the winter months (Brown 1982). Annual precipitation increases from west to east across the BMGR; at Aguajita/Quitobaquito, precipitation is 10.5 inches annually.

The vegetation community of the western portion of the BMGR has been classified as the lower Colorado River Valley subdivision of Sonoran Desert scrub (Brown 1982). It is the largest and most arid subdivision of Sonoran Desert scrub. The Arizona Upland subdivision of Sonoran Desert scrub is found in the Growler, Puerto Blanco, Ajo and Bates mountains, and surrounding bajadas.

C. Status of the Sonoran Pronghorn in the Action Area

Distribution, Abundance, and Life History

The distribution and abundance of the Sonoran pronghorn in the action area is the same as that described above in the Status of the Species for the U.S. sub-population. Life history, including demographics, chronology of breeding and movements, diet, and other factors were also described above for the U.S. population.

Drought

As discussed in the Status of the Species, anthropogenic climate change in the Southwest and the Sonoran Desert is predicted to result in warming trends and drier conditions, with accompanying changes in vegetation communities (Weiss and Overpeck 2005, Seager *et al.* 2007). Rowlands (2000) examined trends in precipitation for southwestern Arizona and OPCNM from 1895-1999. For southwestern Arizona, no trend in precipitation was found for the period, but low precipitation occurred around 1895 and during the 1950s. Periods of high precipitation occurred in 1915-1920 and in the 1980s. For OPCNM, there was a slightly increasing trend in monthly and annual precipitation over the period 1895-1999, a strong drought occurred in the 1950s, and a lesser drought occurred in the 1970s. No discernable trend in precipitation in southwestern Arizona or OPCNM was found in the 1990s, which is when the current decline in the U.S. pronghorn sub-population began.

Since Rowland's analysis, we had one year characterized by above-average rainfall and abundant ephemeral forage (2001) followed by a year with virtually no precipitation or ephemeral forage (2002). Recruitment and survival were high in 2001 and very low in 2002 (Bright and Hervert 2005). Based on the lack of forage and water, and the condition of pronghorn observed, drought is

considered the proximate cause of the 79% decline in the U.S. pronghorn sub-population from 2000 to 2002. The December 2007 long-term (48-months) drought status report (http://www.azwater.gov/dwr/drought/documents/December_2007_Drought_Monitor_Report.pdf) indicates that southwestern Arizona continues to experience abnormally dry to severe drought conditions. Despite this, since 2002, winter and summer precipitation, in conjunction with emergency recovery actions, has been adequate to maintain pronghorn reproduction and fawn survival.

Historically, pronghorn populations must have weathered many severe droughts in the Sonoran Desert, including many that were more severe and longer term than what has occurred recently. Given that pronghorn populations survived the droughts of the 1890s, 1950s, 1970s, and others before those, it is unreasonable to solely attribute recent declines in the U.S. pronghorn population to drought. OPCNM (2001) concluded, "If (individual) recent dry years have had an impact on Sonoran pronghorn, it is most likely because in recent decades Sonoran pronghorn have much more limited options for coping with even brief moderate drought. Because of restrictions on their movements and range, and increasing human presence within their range, pronghorn are less able to employ their nomadic strategy in search of relief. It is not that drought itself is an impact, but possibly that drought has *become* an impact, due to other factors confounding the species' normal ecological strategy."

Emergency Recovery Actions

A number of critically important emergency recovery projects have been recently initiated in an attempt to reverse the decline of the U.S. sub-population of the Sonoran pronghorn (Krausman *et al.* 2005b). These projects are designed to increase availability of green forage and water during dry periods and seasons to offset to some extent the effects of drought and barriers that prevent pronghorn from accessing greenbelts and water, such as the Gila River and Río Sonoyta. Nine emergency water sources (six on CPNWR, one on OPCNM, and two on BMGR-West) have been constructed in recent years throughout the range of the U.S. sub-population. Four forage enhancement plots, each consisting of a well, pump, pipelines and irrigation lines, have been developed to irrigate the desert and produce forage for pronghorn. One plot is currently being constructed and two additional plots will be installed over the next five years.

A semi-captive breeding facility at CPNWR was first stocked with pronghorn in 2004 and now contains 37 animals. As described above, this facility will be used to augment the current U.S. sub-population, and potentially to establish a second herd at Kofa NWR. These crucial projects, which we hope will pull the U.S. population back from the brink of extinction, have been cooperative efforts among FWS, Arizona Game and Fish Department, MCAS-Yuma, Luke Air Force Base, and OPCNM, with volunteer efforts from the Arizona Desert Bighorn Sheep Society, Arizona Antelope Foundation, and the Yuma Rod and Gun Club.

D. Past and Ongoing Non-Federal Actions in the Action Area

The Status of the Species section describes a variety of human activities that have affected the Sonoran pronghorn since initiation of livestock grazing over 300 years ago (Officer 1993). Most

non-Federal activities that have affected the pronghorn are historical in nature, and pronghorn have been all but extirpated from private, state, and Tribal lands.

E. Past and Ongoing Federal Actions in the Action Area

Because of the extent of Federal lands in the action area, most activities that currently, or have recently, affected the U.S. sub-population or their habitat are Federal actions. The primary Federal agencies involved in activities in the action area include the MCAS-Yuma, Luke Air Force Base, FWS, BLM, OPCNM, and Border Patrol. In the following discussion, we have categorized Federal actions affecting the pronghorn as: 1) those actions that have not yet undergone section 7 consultation (although in some cases consultation has been completed on components of the Federal activity), and 2) Federal actions that have undergone consultation.

Federal Actions For Which Consultation Has Not Been Completed

1) Tucson Sector of the Border Patrol

We have been in informal consultation with the Tucson Sector Border Patrol regarding development of a biological assessment for several years (consultation number 02-21-99-I-0138). This consultation will encompass all field activities conducted by the Tucson Sector under their program to detect, deter, and apprehend undocumented immigrants and drug traffickers. Activities within the Ajo Station of the Tucson Sector have the greatest potential to adversely affect pronghorn; although currently that Station is being operated out of the Yuma Sector. Adverse effects may result from patrol and drag road activities, off-road operations, aircraft overflights, the use and maintenance of sensors, construction of vehicle barriers and fences, and installation, operation, and maintenance of cameras and communication towers. From 2002 to 2006, about 180 miles of illegal roads were created in wilderness areas of CPNWR (Segee and Neeley 2006). These routes were likely created both by Border Patrol and smugglers, and all are probably used by Border Patrol. Furthermore, the potential for disturbance to pronghorn due to human presence may increase in areas where agents live on site (i.e., Operation Grip). Border Patrol activities can be beneficial as well, in that they deter illegal border crossings, foot traffic, and off-road vehicles in pronghorn habitat associated with undocumented aliens and smuggling. At the same time, effectiveness of Border Patrol operations elsewhere along the U.S/Mexico border have driven illegal activities into remote areas, such as CPNWR. McCasland (pers. comm. 2007) has anecdotal observations suggesting a negative correlation between areas of high Border Patrol and smuggling traffic and pronghorn use.

2) Smuggler/Drug Interdiction

We are aware of U.S. Customs, Drug Enforcement Authority, and Arizona Army National Guard smuggler or drug interdiction activities in pronghorn habitat, including vehicle and helicopter activities. However, none of these agencies have provided information to us about the extent or types of activities they conduct, and no consultation has occurred on these activities. Impacts are probably similar in scope to those described for the Tucson Sector activities.

3) BLM Off-Road Vehicle Use Area

We are aware of an off-road vehicle (ORV) use area located north of Ajo on BLM land, near the CPNWR, and adjacent to suitable pronghorn habitat. The BLM has not authorized the use of this ORV area but plans to in the updated Resource Management Plan (RMP) they are developing for BLM lands in the vicinity. They will request formal section 7 consultation on the updated RMP. To date, BLM has not provided us with information about the extent and type of use of the ORV area or its possible effects to pronghorn.

Federal Actions Addressed in Section 7 Consultations

As part of our comprehensive discussion of all past and present actions affecting pronghorn within the action area, we describe below all biological opinions issued to date on actions that may affect the pronghorn.

Several opinions addressed projects with minor effects to the pronghorn (capture and collaring of pronghorn for research purposes, consultation numbers 02-21-83-F-0026 and 02-21-88-F-0006; installation of a water source in the Mohawk Valley for pronghorn, consultation number 02-21-88-F-0081; implementation of the CPNWR Comprehensive Conservation Plan, consultation number 22410-2006-F-0416; a change in aircraft type from the F-15A/B to the F-15E on BMGR-East [F-15E Beddown Project], consultation number 02-21-89-F-0008; and the following projects at OPCNM: widen North Puerto Blanco Road project, consultation number 02-21-01-F-0109; roadway and drainage improvements to SR 85, consultation 02-21-01-F-0546; vehicle barrier, consultation number 02-21-02-F-237; and improvement, maintenance, and use of the West Boundary Route, consultation number 02-21-05-M-0100 (this opinion has not yet been finalized)). Incidental take was anticipated only for the Beddown Project in the form of harassment as a result of aircraft overflights. This project was later incorporated into the biological opinion on Luke Air Force Base's activities on the BMGR, discussed below. All of these formal consultations can be viewed on our website at <http://www.fws.gov/arizonaes/Biological.htm>.

Nine biological opinions evaluated major projects with greater effects to pronghorn:

Border Patrol Activities in the Yuma Sector, Wellton Station, Yuma, Arizona

This biological opinion (consultation number 02-21-96-F-0334), issued September 5, 2000, addressed all Border Patrol activities along the United States/Mexico border in Yuma County from the Colorado River to about the area of Pinta Sands at the southern end of the Sierra Pinta Mountains. The Yuma Sector requested reinitiation of consultation, and we delivered a draft biological opinion in 2004; however, we have not received comments from the Border Patrol to date. Currently, Border Patrol activities within the Yuma Sector/Wellton Station include helicopter and ground patrols; drag road preparation and assessment of road maintenance; remote sensor installation and maintenance; maintenance of pedestrian fences east and north of San Luis, construction of a vehicle barrier on the CPNWR, apprehensions and rescues; and assistance to other sectors and agencies. Disturbance to pronghorn was anticipated as a result of on-the-ground Border Patrol operations, and direct injury or mortality of pronghorn as a result of collision with Border Patrol vehicles or by low-level helicopter flights abruptly approaching and startling pronghorn, which may result in injury or energetic stress, particularly during drought.

Pronghorn may also be adversely affected by noise and visual impacts of helicopter overflights. To reduce adverse effects on pronghorn, the Border Patrol agreed to implement a number of conservation measures. We determined that the proposed action was not likely to jeopardize the continued existence of the pronghorn. We anticipated take in the form of harassment that is likely to injure up to one pronghorn in 10 years. The following reasonable and prudent measures were provided: 1) minimize injury of pronghorn; 2) monitor and study reactions of pronghorn on BMGR to Border Patrol activities; and 3) provide a means to determine the level of incidental take that results from Border Patrol activities. Several conservation recommendations were also provided. We are not aware of any incidental take attributable to Yuma Sector activities.

BLM's Lower Gila South Management Area

Three biological opinions address BLM's Lower Gila South Management Area. The Lower Gila South Resource Management Plan-Goldwater Amendment (consultation number 02-21-90-F-0042), proposed specific and general management guidance for non-military activities on the BMGR. The non-jeopardy biological opinion, issued April 25, 1990, was programmatic, requiring BLM to consult when site-specific projects are proposed. No incidental take was anticipated. The Lower Gila South Habitat Management Plan (HMP) (consultation number 02-21-89-F-0213) provided management guidance for both specific and general actions in southwestern Arizona. Four actions were addressed in the HMP, including an exchange of 640 acres near Ajo, rehabilitation work on two catchments, and assessment of livestock removal from pronghorn habitat. Exchange of land out of public ownership may facilitate development or other uses that would preclude use by pronghorn. The non-jeopardy opinion was issued on May 15, 1990. The biological opinion for the Lower Gila South Resource Management Plan and Amendment (consultation number 02-21-85-F-0069) addressed programmatic management of lands in southwestern Arizona, including livestock grazing, wilderness, cultural resources, fire, minerals and energy, recreation, wildlife management, wood cutting, Areas of Critical Environmental Concern, and other land uses. The non-jeopardy biological opinion was issued on March 27, 1998; no incidental take was anticipated. In regard to management on the BMGR, these three opinions have been replaced by the opinion on the BMGR's Integrated Natural Resources Management Plan (INRMP) (see below). The Air Force and MCAS-Yuma have assumed BLM's management responsibilities on the BMGR.

BLM grazing allotments in the vicinity of Ajo, Arizona

The original biological opinion (consultation number 02-21-94-F-0192), issued December 3, 1997, addressed effects to pronghorn resulting from issuance of grazing permits on five allotments, four of which were located near Ajo and Why (Cameron, Childs, Coyote Flat, and Why allotments); and the fifth near Sentinel (Sentinel allotment). All but portions of allotments east of Highway 85 were considered to be within the current distribution of the Sonoran pronghorn. Reinitiations resulted in revised biological opinions dated November 16, 2001, September 30, 2002, June 21, 2004, March 3, 2005, and March 8, 2007. Under the current proposed action, the Cameron Allotment is closed, the Sentinel Allotment has been in non-use for several years, the Coyote Flat and Why allotments were combined into one (Coyote Flat Allotment), and the Childs Allotment remains relatively unchanged in terms of management. Effects of livestock grazing activities included reduced forage availability for pronghorn, human

disturbance due to livestock management, barriers to movement caused by pasture and allotment fences, and potential for disease transfer from cattle to pronghorn. The March 8, 2007 opinion concluded that the proposed action was not likely to jeopardize the continued existence of the pronghorn. No incidental take was anticipated, and none is known to have occurred.

Organ Pipe Cactus National Monument General Management Plan

The original biological opinion (consultation number 02-21-89-F-0078), issued June 26, 1997, addressed implementation of OPCNM's General Management Plan (GMP). This opinion was reinitiated five times, resulting in revised biological opinions dated November 16, 2001, April 7, 2003, March 10 and August 23, 2005, and March 8, 2007. GMP plan elements included: 1) continuing travel and commerce on SR 85 while enhancing resource protection, 2) seeking designation of OPCNM as the Sonoran Desert National Park, 3) establishment of partnerships, 4) increased wilderness and an interagency wilderness and backcountry management plan, 5) changes in trails, facilities, and primitive camping, and 6) implementation of a Cultural Resources Management Plan. Included were a number of conservation measures to minimize impacts to pronghorn. Effects of the action included human disturbance to pronghorn and habitat due to recreation and management activities. We determined that the proposed action was not likely to jeopardize the continued existence of the pronghorn. In the latest versions of the opinion, no incidental take of pronghorn was anticipated. No incidental take is known to have occurred.

Marine Corps Air Station-Yuma in the Arizona Portion of the Yuma Training Range Complex

The original biological opinion (consultation number 02-21-95-F-0114), was issued on April 17, 1996. That opinion was reinitiated and revised opinions were issued November 16, 2001 and August 6, 2003. These opinions addressed all proposed and authorized actions on the BMGR by MCAS-Yuma, including ongoing and proposed changes to military flights over CPNWR and the BMGR, operation of various training facilities such as landing strips, a rifle range, targets, a parachute drop zone, a transmitter/telemetry system, ground support areas, and Weapons Tactics Instructor courses, conducted twice a year (March-April and October-November) that involve overflights, ground-based activities, and deliverance of ordnance at targets in BMGR-East. Ground-based activities, such as those of troops and vehicles at ground-support areas were determined to adversely affect pronghorn habitat use. In areas where helicopters fly particularly low and create noise and visual stimuli, disturbance of pronghorn was anticipated. Ordnance delivery at North and South TACs could disturb pronghorn, and ordnance, live fire, and shrapnel could potentially strike and kill or injure a pronghorn. MCAS-Yuma proposed measures to reduce the direct and indirect impacts of the proposed action, including measures to reduce or eliminate take of Sonoran pronghorn and to minimize destruction and degradation of habitat. We determined that the proposed action was not likely to jeopardize the continued existence of the pronghorn. In the 2003 version of the BO, no incidental take of pronghorn was anticipated and none is known to have occurred.

Luke Air Force Base Use of Ground-Surface and Airspace for Military Training on the BMGR

The original biological opinion (consultation number 02-21-96-F-0094), issued August 27, 1997, addressed military use of the airspace above and the ground space on BMGR-East and CPNWR by Luke Air Force Base. Military activities within the area of overlap with the CPNWR were limited to use of airspace and operation of four Air Combat Maneuvering Instrumentation sites. Military activities occurring within BMGR-East included: airspace use, four manned air-to-ground ranges, three tactical air-to-ground target areas, four auxiliary airfields, Stoval Airfield, and explosive ordnance disposal/burn areas. Primary potential effects of the action included habitat loss due to ground-based activities, harassment and possible mortality of pronghorn at target areas, and disturbance of pronghorn due to military overflights. We determined that the proposed action was not likely to jeopardize the continued existence of the pronghorn. This opinion was reinitiated in 2001 and 2003, resulting in revised opinions dated November 16, 2001 and August 6, 2003. In the latest (2003) opinion, no incidental take was anticipated. We are not aware of any take of pronghorn confirmed attributable to Luke Air Force Base use of the ground-surface and airspace on the BMGR. A pronghorn found dead near a target may have been strafed, but it may also have died from other causes (see "Effects of the Proposed Action" in the 2003 opinion for a full discussion of this incident).

During the development of these opinions, Luke Air Force Base made substantial commitments to minimize the effects of their activities on the Sonoran pronghorn, and additionally committed to implementing a variety of recovery projects recommended by the Sonoran Pronghorn Recovery Team.

Western Army National Guard Aviation Training Site Expansion Project

The non-jeopardy biological opinion for WAATS (consultation number 02-21-92-F-0227) was issued on September 19, 1997; however, Sonoran pronghorn was not addressed in formal consultation until reinitiations and revised opinions dated November 16, 2001 and August 6, 2003. The purpose of WAATS is to provide a highly specialized environment to train ARNG personnel in directed individual aviator qualification training in attack helicopters. The WAATS expansion project included: 1) expansion of the existing Tactical Flight Training Area, which includes establishing four Level III touchdown sites, 2) development of the Master Construction Plan at the Silver Bell Army Heliport, and 3) establishment of a helicopter aerial gunnery range for use by the ARNG on East TAC of the BMGR. All activities that are part of the proposed action occur outside the current range of the pronghorn, with the exception of training at North TAC. Training at North TAC only occurs when East TAC is closed for annual maintenance and EOD clearances (4-6 weeks each year). Effects to pronghorn at North TAC are minimized by monitoring protocols established by Luke Air Force Base. Training at East TAC could preclude recovery of historical habitat if the many other barriers that prevent pronghorn use of East TAC were removed. The November 16, 2001 and August 6, 2003 opinions found that the proposed action was not likely to jeopardize the continued existence of the pronghorn. No incidental take was anticipated and none is known to have occurred as a result of the proposed action. ARNG included the following conservation measures as part of their proposed action: 1) they proposed to study the effects of low-level helicopter flights on a surrogate pronghorn population at Camp Navajo, and 2) they committed to funding up to five percent of emergency recovery actions on the BMGR.

BMGR Integrated Natural Resources Management Plan

The non-jeopardy opinion for this action was issued on August 26, 2005. The Military Lands Withdrawal Act (MLWA) of 1999 required that the Secretaries of the Air Force, Navy, and Interior jointly prepare an INRMP for the BMGR, the purpose of which was to provide for the “proper management and protection of the natural and cultural resources of [the range], and for sustainable use by the public of such resources to the extent consistent with the military purposes [of the BMGR].” The proposed action was comprehensive land management, including public use restrictions, authorizations, and permitting on portions of the BMGR regarding camping, vehicle use, shooting, entry into mines, firewood collection and use, rockhounding, and other activities; natural resources monitoring, surveys, and research; habitat restoration; wildlife water developments; development of a wildfire management plan; law enforcement; limitations on the locations of future utility projects and the Yuma Area Service Highway; control of trespass livestock; and designation of special natural/interest areas, while allowing other designations to expire. The proposed action included many land use prescriptions that would improve the baseline for the pronghorn. No incidental take was anticipated, and none is known to have occurred from the proposed action.

Department of Homeland Security Permanent Vehicle Barrier

This biological opinion (consultation number 22410-2006-F-0113), issued September 15, 2006, addressed the CBP - Office of the Border Patrol’s installation of a permanent vehicle barrier (as well as access improvements, construction/improvement of border roads, and associated maintenance and patrol activities) along the border from the western end of the OPCNM barrier to Avenue C just east of San Luis, Arizona. Effects to pronghorn included 1) disturbance of a narrow swath of habitat along the border, 2) presence of construction crews and vehicles that may disturb or preclude use of the area by pronghorn, 3) presence of maintenance and patrol vehicles and crews along the barrier access road, and 4) dramatic reduction or elimination of illegal drive-throughs and required law enforcement response, with much reduced route proliferation and habitat damage from off-highway vehicles. We determined that the proposed action was not likely to jeopardize the continued existence of the pronghorn. No incidental take of pronghorn was anticipated. Subsequent to issuing the biological opinion, the action was changed to include the installation of a hybrid-style fence designed to prevent the passage of pedestrians. Because all environmental laws were waived (as permitted by the Real ID Act of 2005) by Secretary of the DHS, CBP never reinitiated consultation with us regarding this change to their proposed action.

F. Summary of Activities Affecting Sonoran Pronghorn in the Action Area

Historically, livestock grazing, hunting or poaching, and development along the Gila River and Río Sonoyta were all probably important factors in the well-documented Sonoran pronghorn range reduction and apparent population decline that occurred early in the 20th century. Historical accounts and population estimates suggest pronghorn were never abundant in the 20th century, but recently, the estimated size of the wild population in the action area declined from 179 (1992) to 21 (December 2002) and 68 (2006). At 21 and 68, genetic diversity could erode, and the sub-population is in imminent danger of extirpation due to human-caused impacts, or

natural processes, such as predation or continued drought. Although the proximate cause of the decline during 2002 was drought, human activities limit habitat use options by pronghorn and increase the effects of drought on the sub-population. The U.S. pronghorn sub-population is isolated from other sub-populations in Sonora by a highway and the U.S./Mexico boundary fence, and access to the greenbelts of the Gila River and Río Sonoyta, which likely were important sources of water and forage during drought periods, has been severed.

Within its remaining range, the pronghorn is subjected to a variety of human activities that disturb the pronghorn and its habitat, including military training, increasing recreational activities, grazing, increasing presence of undocumented immigrants and smugglers, and in response, increased law enforcement activities. MCAS-Yuma (2001) quantified the extent of the current pronghorn range that is affected by various activities and found the following: recreation covers 69.6 percent of the range, military training on North and South TACs covers 9.8 percent, active air-to-air firing range covers 5.8 percent, proposed EOD five-year clearance areas at North and South TACs and Manned Range 1 cover 1.0 percent, and MCAS-Yuma proposed ground support areas and zones cover 0.29 percent. Border Patrol enforcement and smuggling activities occur throughout the range of the pronghorn, and anecdotal evidence suggests pronghorn are avoiding areas of high enforcement and illegal activities. Historically, pronghorn tended to migrate to the southeastern section of their range (southeastern CPNWR and OPCNM) during drought and in the summer. Within the last few years, very few pronghorn have been observed south of El Camino del Diablo on CPNWR. This suggests illegal smuggling and the interdiction of these illegal activities have resulted in pronghorn avoiding areas south of El Camino del Diablo; these areas are considered important summer habitat for pronghorn and may have long-term management and recovery implications (McCasland pers. comm. 2007). All of the valleys at CPNWR, which were once nearly pristine wilderness Sonoran Desert, now have many braided, unauthorized routes through them and significant vehicle use by USBP agents pursuing illegal immigrants and smugglers. OPCNM (2001) identified 165 human activities in the range of the pronghorn, of which 112 were adverse, 27 were beneficial, 26 had both adverse and beneficial effects, and four had unknown effects. OPCNM (2001) concluded that in regard to the pronghorn, "while many projects have negligible impacts on their own, the sheer number of these actions is likely to have major adverse impacts in aggregate."

Although major obstacles to recovery remain, since 2002, numerous crucial recovery actions have been implemented in the U.S. range of the species, including nine emergency waters and four forage enhancement plots, with additional waters and forage plots planned. The projects tend to offset the effects of drought and barriers to prevent movement of pronghorn to greenbelts such as the Gila River and Río Sonoyta. A semi-captive rearing facility, built on Cabeza Prieta NWR, currently holds 37 pronghorn. This facility will provide pronghorn to augment the existing sub-population and hopefully to establish a second U.S. sub-population at Kofa NWR.

The current range of the pronghorn in the U.S. is almost entirely comprised of lands under Federal jurisdiction; thus authorized activities that currently affect the pronghorn in the action area are almost all Federal actions. However, illegal, unauthorized foot traffic and off-road vehicle activity, but also required Federal law enforcement response have been and continue to be significant threats to the pronghorn and its habitat. Prior to November 2001, in seven of 12 biological opinions issued by FWS that analyzed impacts to the pronghorn, we anticipated that

take would occur. In total, we anticipated take of five pronghorn in the form of direct mortality every 10-15 years, and an undetermined amount of take in the form of harassment. Given the small and declining population of pronghorn in the U.S. at the time the opinions were written, take at the levels anticipated in the biological opinions would constitute a substantial impact to the population.

Changes made in proposed actions and reinitiated biological opinions from 2001 to the present, plus the findings in other recent opinions, reduced the amount or extent of incidental take anticipated to occur from Federal actions. Significantly, we have been successful working with action agencies to modify proposed actions and to include significant conservation measures that reduce adverse effects to the pronghorn and its habitat. The only current opinion that anticipates incidental take is the Yuma Sector opinion, in which we anticipated take in the form of harassment that is likely to injure up to one pronghorn in 10 years. With the exception of likely capture-related deaths during telemetry studies (which were addressed in 10(a)(1)(A) recovery permits), we are unaware of any confirmed incidental take resulting from the Federal actions described here (although a pronghorn may have been strafed near one of the targets on BMGR-East – see above).

We believe the aggregate effects of limitations or barriers to movement of pronghorn and continuing stressors, including habitat degradation and disturbance within the pronghorn's current range resulting from a myriad of human activities, exacerbated by periodic dry seasons or years, are responsible for the present precarious status of the Sonoran pronghorn in the action area. However, collaborative, multi-agency and multi-party efforts to develop forage enhancement plots and emergency waters, combined with the success of the semi-captive breeding facility, plus planned future recovery actions, including establishment of a second U.S. sub-population, provide hope that recovery of the Sonoran pronghorn in the U.S. is achievable.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action that will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

Sonoran Pronghorn

The proposed fence project may result in disturbance to Sonoran pronghorn and/or degradation of pronghorn habitat. Construction and maintenance of the fence and roads, as well as possible increased illegal pedestrian and law enforcement activity to the west of the project will result in removal, destruction, and disturbance of vegetation that may provide forage and cover to pronghorn and may visually and auditorily disturb pronghorn. Though activities associated with the proposed project may be detrimental to pronghorn, conservation measures included in the project description will minimize and help offset disturbance to pronghorn and degradation of

their habitat. The fence may have a beneficial effect on pronghorn and pronghorn habitat in the Lukeville area if it is successful in reducing the number of illegal pedestrians that currently cross into the pronghorn range from Mexico. However, habitat damage and disturbance of pronghorn to the west of the project may increase if illegal traffic is redirected to the west of the fence.

Effects from Construction and Maintenance Activities

Construction and maintenance activities associated with the project may result in some, though we anticipate minimal, disturbance to Sonoran pronghorn, particularly on the western slope of Sonoyta Hill, where there is a greater chance for pronghorn to occur. At least during the project construction phase, disturbance will be minimized by having a biological monitor present (only during construction activities on the western slope of Sonoyta Hill) to ensure that all project construction activities are suspended if Sonoran pronghorn are detected within 0.62 mile of project activities. Access to the western portion of the construction site (i.e., west of Highway 85) will be along the OPCNM border road and South Puerto Blanco road. Though use of these roads may result in some disturbance to Sonoran pronghorn, because pronghorn are not likely to occur near the border or South Puerto Blanco roads between Highway 85 and Sonoyta Hill (based on pronghorn detections for the last 13 years and abundant near-by human presence), we anticipate disturbance to pronghorn will be minimal. Vehicles associated with construction and maintenance could also collide with pronghorn causing injury and/or death. However, we believe the likelihood of collisions with construction and maintenance vehicles is probably low because, as described in the “Status of the Species”, pronghorn are relatively rare, particularly within the project corridor; vehicles will travel at speeds less than 25 miles per hour; and because we are not aware of any such collisions in the U.S., or along unpaved routes anywhere within the range of the Sonoran pronghorn.

Effects from Pedestrian Traffic and Patrol Activities

The fence may have a beneficial effect on Sonoran pronghorn if it reduces illegal pedestrian activities and law enforcement pursuits within the Sonoran pronghorn range. These benefits are most likely to accrue immediately north of the pedestrian fence in the Lukeville area. However, if illegal traffic is redirected, particularly to the west of fence, disturbance to pronghorn and important pronghorn habitat in that area will increase. Patrol activities, which are expected to increase to the west of the fence if illegal traffic shifts west, may additionally disturb pronghorn and their habitat. As noted in the Environmental Baseline, pronghorn appear to be avoiding areas south of the Camino del Diablo in CPNWR possibly due to high levels of smuggling and required law enforcement response. Shifting traffic to west of the Lukeville fence would exacerbate these effects. Increased illegal and law enforcement activities in pronghorn habitat could cause pronghorn to flee and result in short-term denial of access to habitat, both of which would likely result in severe adverse physiological effects to pronghorn. As discussed in the “Status of the Species” and below, Sonoran pronghorn are sensitive to human disturbance. Vehicle traffic is disturbing to pronghorn and will often cause flight or startle responses with associated adverse physiological changes. Hughes and Smith (1990) found that pronghorn immediately ran 1,310-1,650 feet from a vehicle. Krausman *et al.* (2001) found that Sonoran pronghorn reacted to ground disturbances (vehicles or people on foot) with a change in behavior 37 percent of the time, resulting in the animals running or trotting away 2.6 percent of the time. Wright and deVos (1986) noted that Sonoran pronghorn exhibit “a heightened response to human traffic” as compared to other subspecies of pronghorn. Disturbance and flight of

ungulates are known to result in a variety of physiological effects that are adverse, including elevated metabolism, lowered body weight, reduced fetus survival, and withdrawal from suitable habitat (Geist 1971, Harlow *et al.* 1987), which may be exacerbated in harsh environments such as those occupied by Sonoran pronghorn. Disturbance may also lead to mortality, including increased vulnerability to predator attack and susceptibility to heat stress and malnutrition.

Because pronghorn are rare, encounters with illegal immigrants and smugglers should be a relatively rare event. The likelihood of encounters will increase however if illegal traffic increases to the west of the fence. Patrol vehicles pursuing illegal immigrants/smugglers along the improved vehicle route adjacent to the pedestrian fence or in areas to west of the fence in response a shift in illegal traffic could also collide with pronghorn causing injury and/or death. However, we believe the likelihood of collisions with patrol vehicles is probably low because vehicles will not likely be traveling at high speeds (due to traveling primarily along unimproved routes); we are not aware of any such collisions in the U.S., or along unpaved routes anywhere within the range of the Sonoran pronghorn; and pronghorn are relatively rare. Shifts in illegal and law enforcement activity to the west could also further degrade pronghorn habitat in that area. Trails and other soil disturbance can increase erosion, promote the spread of invasive species, and increase the potential for fires, which can adversely affect Sonoran pronghorn habitat. Additionally, off-road vehicle travel can cause changes in surface hydrology (from channelization of water in entrenched vehicle track prisms), which may substantially impact vegetation that provides forage and cover to pronghorn.

However, if patrol increases to the west of the fence along the border, and illegal activity is more successfully interdicted at the border, we anticipate the frequency of law enforcement pursuits through the action area should decrease, which will minimize disturbance to pronghorn and degradation of their habitat. Increased patrol along the border may disturb pronghorn and cause them to avoid or less frequently use the border area. However, because pronghorn are rare along the border, encounters with patrol activities near the border should be a relatively rare event.

Habitat Loss and Degradation

The proposed project would result in the direct disturbance of approximately 45 acres (this includes 17 acres of previously disturbed area); however, much of this is not considered suitable habitat for pronghorn due to abundant near-by human presence or rocky, steep terrain. However, the 45 acres of disturbed ground will be susceptible to colonization by invasive non-native plants such as buffelgrass, Sahara mustard, and *Eruca vesicaria*. Non-native species may outcompete natives and carry fire which could impact near-by pronghorn habitat. As stated in the "Status of the Species", most Sonoran Desert trees, shrubs, and cacti, which provide thermal cover and forage for pronghorn, are very fire intolerant.

Removal of vegetation via fire and direct disturbance in the pronghorn's range decreases the amount of thermal cover and forage available to pronghorn, with adverse effects to pronghorn, especially in drought situations when less forage is already available. The amount of habitat loss due to fence and road construction, however, is extremely small in the context of the approximately 2 million acres of potentially suitable habitat available to the U.S. sub-population of Sonoran pronghorn. The amount of habitat loss due to potential fire cannot be predicted; however, fire could impact a significant amount of pronghorn habitat. Control of non-native

plants within the project footprint, as proposed by CBP, should help decrease the risk of fire within the Sonoran pronghorn range. Additionally, restoration of 84 acres, if it occurs within the Sonoran pronghorn range, should help offset impacts to pronghorn habitat caused by the project.

Barriers to Pronghorn Movement

The proposed project overlays an existing barrier to Sonoran pronghorn movement, the international boundary. It is generally thought that pronghorn currently do not cross the international boundary due to the combined barrier effects of: (1) the international-boundary livestock fence; (2) Mexican Highway 2; (3) right-of-way fencing and livestock fencing that is intermittent along Highway 2 between Sonoyta and San Luis; and (4) human settlements and activity concentrations, which are expanding linearly along the boundary. Mexican Highway 2 does not continue near the border east of Lukeville (it turns south) and thus does not act as a barrier to trans-border Sonoran pronghorn movement along the eastern portion of the proposed project. Sonoran pronghorn, however, in recent years have only rarely been documented using the eastern portion of the proposed project area, likely due to the barrier effect of Highway 85. The proposed fence would completely impede any attempted trans-border Sonoran pronghorn movements near Lukeville. However, because Sonoran pronghorn are not known to cross the international border due to aforementioned existing barriers, we do not anticipate the fence will affect their trans-border movement patterns.

Conservation Measures

CBP's commitments to provide funding to fill a Sonoran pronghorn water for 10 years (at an annual cost of \$2,500.00) will help offset potential impacts to pronghorn that may occur as a result of this project and will generally aid in the conservation and recovery of pronghorn. Furthermore, restoration of 84 acres, if it occurs with the Sonoran pronghorn range, will also help offset project impacts to pronghorn.

Pronghorn Status

The most recent formal Sonoran pronghorn survey in December 2006 resulted in an estimated 68 wild pronghorn in the U.S. population, which was a substantial increase from an estimated 18 wild pronghorn in the U.S. in 2002. This increase can likely be attributed to improved habitat conditions since 2002 when a severe drought occurred, as well as emergency recovery actions such as forage enhancement plots and waters (see details under the "Environmental Baseline"), which undoubtedly offset to some extent the effects of drought and barriers that prevent pronghorn from accessing greenbelts and water, such as the Gila River and Río Sonoyta. We expect these recovery actions may also help offset adverse effects from this project as well as other activities within the action area that disturb pronghorn and their habitat. Because pronghorn remain critically endangered, however, it is imperative that all adverse effects to pronghorn from the proposed action and other activities are minimized and offset to the greatest extent possible.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future

Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Most lands within the action area (current range of the pronghorn within Arizona) are managed by Federal agencies; thus, most activities that could potentially affect pronghorn are Federal activities that are subject to section 7 consultation. The effects of these Federal activities are not considered cumulative effects. Relatively small parcels of private and State lands occur within the currently-occupied range of the pronghorn near Ajo and Why, north of the BMGR from Dateland to Highway 85, and from the Mohawk Mountains to Tacna. State inholdings in the BMGR were acquired by the USAF. Continuing rural and agricultural development, recreation, vehicle use, grazing, and other activities on private and State lands adversely affect pronghorn and their habitat. MCAS-Yuma (2001) reports that 2,884 acres have been converted to agriculture near Sentinel and Tacna. These activities on State and private lands and the effects of these activities are expected to continue into the foreseeable future. Historical habitat and potential recovery areas currently outside of the current range are also expected to be affected by these same activities on lands in and near the action area in the vicinity of Ajo, Why, and Yuma.

Of particular concern are illegal border crossings by undocumented immigrants and smugglers. In fiscal year 2005, the Yuma Sector of the Office of Border Patrol (OBP) apprehended record numbers of illegal immigrants and smugglers, and from October 1, 2005 to May 2006, 96,000 were made, which was a 13% increase over the same time period in 2005 (Gerstenzang 2006). In 2001, estimates of undocumented migrant traffic reached 1,000 per night in OPCNM alone (National Park Service 2001 or OPCNM 2001) and an estimated 150,000 people entered the OPCNM illegally from Mexico (Milstead and Barns 2002). Increased presence of the Border Patrol in the Douglas, Arizona area, and in San Diego (Operation Gatekeeper) and southeastern California, pushed illegal immigrant and smuggler traffic into remote desert areas, such as CPNWR, OPCNM, and BMGR (Klein 2000). Though the operation of Camp Grip within the CPNWR and the temporary camp detail at Bates Well on the OPCNM reduced the number of illegal drive-throughs in the eastern portion of the CPNWR in FY 2005 (Hubbard 2005, as cited in U.S. Customs and Border Protection 2005). In recent years, the number of illegal roads and foot trails created by illegal immigrants within the CPNWR has increased substantially (U.S. Customs and Border Protection 2005, C. McCasland pers. comm. 2007). These illegal crossings and required law enforcement response have resulted in route proliferation, off-highway vehicle activity, increased human presence in backcountry areas, discarded trash, abandoned vehicles, cutting of firewood, illegal campfires, and increased chance of wildfire. Habitat degradation and disturbance of pronghorn almost certainly result from these illegal activities. Currently, much of the illegal traffic travels through the southern passes of the Growler Mountains and lead either through or by all of our forage enhancements and captive rearing pen in the Child's Valley, with potential to impact these recovery projects and use of the area by pronghorn (C. McCasland pers. comm. 2007). Probably due to increased enforcement presence, ongoing construction of a vehicle barrier at CPNWR, and the vehicle barrier at OPCNM, all forms of illegal activities except narcotics trafficking are significantly down so far in fiscal year 2008 as compared to the same period in fiscal year 2007. Apprehensions are down from 40-67% at OPCNM and CPNWR over this period, and thus far in FY 08 no drive-throughs have occurred at OPCNM (CBP presentation to the Borderlands Management Task Force, January 16, 2008). Despite high levels of illegal activity and required law enforcement response throughout the action area,

pronghorn in the U.S. have managed to increase since 2002, although their use of areas subject to high levels of illegal use and law enforcement have likely declined, as discussed above.

We expect illegal activities and their effects on pronghorn to continue, though they should be reduced once the PVB on CPNWR is completed (as of this writing, the PVB has been installed from the border of OPCNM and CPNWR to the boundary of Pima and Yuma counties).

CONCLUSION

After reviewing the current status of the Sonoran pronghorn, the environmental baseline for the action area, the effects of the proposed activities associated with the Lukeville fence project, and the cumulative effects, it is our biological opinion the proposed action is not likely to jeopardize the continued existence of the Sonoran pronghorn. No critical habitat has been designated for this species, therefore, none will be affected. Our conclusion is based on the following:

1. The Sonoran pronghorn population has increased since 2002, despite high levels of human use in the form of off- and on-road vehicle and foot travel by smugglers, illegal immigrants, and law enforcement.
2. Completion of forage enhancement plots, waters, and the semi-captive breeding facility have helped make the pronghorn population in the U.S. more secure and more resistant to drought and other stressors.
3. Loss of pronghorn habitat resulting from this project is very small in the context of the approximately 2 million acres of potentially suitable habitat available to the U.S. sub-population of Sonoran pronghorn. Additionally, habitat disturbance will be minimized by conducting project activities within previously disturbed areas to the extent practicable.
4. The likelihood of pronghorn crossing the international boundary with Mexico in the project area is currently very low because of current physical barriers (e.g., Mexico Highway 2) and human activities. Therefore, the presence of the Lukeville fence is unlikely to result in additional barriers to pronghorn movement across the international boundary.
5. Conservation measures included in the proposed action will reduce disturbance to pronghorn during project construction activities (i.e., the presence of a biological monitor to ensure that all project construction activities are suspended if pronghorn are detected within 0.62 mile of project activities).
6. Conservation measures included in the proposed action (i.e., funding to fill a pronghorn water and habitat restoration) will help offset adverse effects to pronghorn that could result from implementation of the project.
7. When added to the environmental baseline, the status of the species, and cumulative effects, the effects of the proposed action do not reduce appreciably the likelihood of

survival and recovery of the subspecies in the wild. Therefore, the proposed action will not jeopardize the continued existence of the subspecies. Though illegal activity could increase to the west of the fence, such activity should be reduced by CPB/USBP's assignment of additional agents to unprotected areas. The presence of a vehicle barrier to the west of the fence also halts most or all illegal vehicle traffic. Consequently, adverse effects to pronghorn from possible increased illegal activity should be minimized. Additionally, once the Lukeville fence is completed we expect to see a dramatic decrease in illegal traffic in the Lukeville area. Decreased illegal and legal human activity within pronghorn habitat in the vicinity of Lukeville will be beneficial to pronghorn.

The conclusions of this biological opinion are based on full implementation of the project as described in the "Description of the Proposed Action" section of this document, including any conservation measures that were incorporated into the project design.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR 17.3). "Harass" is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering (50 CFR 17.3). "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

AMOUNT OR EXTENT OF TAKE ANTICIPATED

We do not anticipate the proposed action will result in incidental take of Sonoran pronghorn for the following reasons:

1. Pronghorn are rare; making encounters with human activities (both legal and illegal) associated with the Lukeville fence project a relatively rare event.
2. Measures included in the proposed action, such as the daily surveys for Sonoran pronghorn, will further reduce the potential for take.
3. No incidental take of Sonoran pronghorn is known to have occurred in Arizona due to CBP/OBP or illegal immigrant/smuggler activities.

LESSER LONG-NOSED BAT

STATUS OF THE SPECIES

A. Species Description

The lesser long-nosed bat is a medium-sized, leaf-nosed bat. It has a long muzzle and a long tongue, and is capable of hover flight. These features are adaptations for feeding on nectar from the flowers of columnar cacti (e.g., saguaro; cardon, *Pachycereus pringlei*; and organ pipe cactus, *Stenocereus thurberi*) and from paniculate agaves (e.g., Palmer's agave, *Agave palmeri*) (Hoffmeister 1986). The lesser long-nosed bat was listed (originally, as *Leptonycteris sanborni*; Sanborn's long-nosed bat) as endangered in 1988 (U.S. Fish and Wildlife Service 1988). No critical habitat has been designated for this species. A recovery plan was completed in 1994 (U.S. Fish and Wildlife Service 1997). Loss of roost and foraging habitat, as well as direct taking of individual bats during animal control programs, particularly in Mexico, have contributed to the current endangered status of the species. Recovery actions include roost monitoring, protection of roosts and foraging resources, and reducing existing and new threats.

B. Distribution and Life History

The lesser long-nosed bat is migratory and found throughout its historical range, from southern Arizona and extreme southwestern New Mexico, through western Mexico, and south to El Salvador. It has been recorded in southern Arizona from the Picacho Mountains (Pinal County) southwest to the Agua Dulce Mountains (Pima County) and Copper Mountains (Yuma County), southeast to the Peloncillo Mountains (Cochise County), and south to the international boundary. Roosts in Arizona are occupied from late April to September (Cockrum and Petryszyn 1991) and on occasion, as late as November (Sidner 2000); the lesser long-nosed bat has only rarely been recorded outside of this time period in Arizona (U. S. Fish and Wildlife Service 1997, Hoffmeister 1986, Sidner and Houser 1990). In spring, adult females, most of which are pregnant, arrive in Arizona gathering into maternity colonies. These roosts are typically at low elevations near concentrations of flowering columnar cacti. After the young are weaned these colonies mostly disband in July and August; some females and young move to higher elevations, primarily in the southeastern parts of Arizona near concentrations of blooming paniculate agaves. Adult males typically occupy separate roosts forming bachelor colonies. Males are known mostly from the Chiricahua Mountains and recently the Galiuro Mountains (personal communication with Tim Snow, Arizona Game and Fish Department, 1999) but also occur with adult females and young of the year at maternity sites (U. S. Fish and Wildlife Service 1997). Throughout the night between foraging bouts, both sexes will rest in temporary night roosts (Hoffmeister 1986).

Lesser long-nosed bats appear to be opportunistic foragers and extremely efficient fliers. They are known to fly long distances from roost sites to foraging sites. Night flights from maternity colonies to flowering columnar cacti have been documented in Arizona at 15 miles, and in Mexico at 25 miles and 36 miles (one way) (Dalton *et al.* 1994; personal communication with V. Dalton, 1997; personal communication with Y. Petryszyn, University of Arizona, 1997). Steidl (personal communication, 2001) found that typical one-way foraging distance for bats in southeastern Arizona is roughly 12.5 miles. A substantial portion of the lesser long-nosed bats at the Pinacate Cave in northwestern Sonora (a maternity colony) fly 25-31 miles each night to

foraging areas in OPCNM (U.S. Fish and Wildlife Service 1997). Horner *et al.* (1990) found that lesser long-nosed bats commuted 30-36 miles round trip between an island maternity roost and the mainland in Sonora; the authors suggested these bats regularly flew at least 47 miles each night. Lesser long-nosed bats have been observed feeding at hummingbird feeders many miles from the closest known potential roost site (personal communication with Yar Petryszyn, University of Arizona, 1997).

Lesser long-nosed bats, which often forage in flocks, consume nectar and pollen of paniculate agave flowers and the nectar, pollen, and fruit produced by a variety of columnar cacti. Nectar of these cacti and agaves is high energy food. Concentrations of some food resources appear to be patchily distributed on the landscape, and the nectar of each plant species used is only seasonally available. Cacti flowers and fruit are available during the spring and early summer; blooming agaves are available primarily from July through October. In Arizona, columnar cacti occur in lower elevational areas of the Sonoran Desert region, and paniculate agaves are found primarily in higher elevation desert scrub areas, semi-desert grasslands and shrublands, and into the oak woodland (Gentry 1982). Lesser long-nosed bats are important pollinators for agave and cacti, and are important seed dispersers for some cacti.

C. Status and Threats

Recent information indicates that lesser long-nosed bat populations appear to be increasing or stable at most Arizona roost sites identified in the recovery plan (AGFD 2005, Tibbitts 2005, Wolf and Dalton 2005). Lesser long-nosed bat populations additionally appear to be increasing or stable at other roost sites in Arizona and Mexico not included for monitoring in the recovery plan (Sidner 2005). Less is known about lesser long-nosed bat numbers and roosts in New Mexico. Though lesser long-nosed bat populations appear to be doing well, many threats to their stability and recovery still exist, including excess harvesting of agaves in Mexico; collection and destruction of cacti in the U.S.; conversion of habitat for agricultural and livestock uses, including the introduction of buffleggrass, a non-native, invasive grass species; wood-cutting; drought; fires; human disturbance at roost sites; and urban development.

Approximately 20 – 25 large lesser long-nosed bat roost sites, including maternity and late-summer roosts, have been documented in Arizona (personal communication with Scott Richardson, FWS, 2006). Of these, 10 – 20 are monitored on an annual basis depending on available resources. Monitoring in Arizona in 2004 documented approximately 78,600 lesser long-nosed bats in late-summer roosts and approximately 34,600 in maternity roosts. Ten to 20 lesser long-nosed bat roost sites in Mexico are also monitored annually. Over 100,000 lesser long-nosed bats are found at just one natural cave at the Pinacate Biosphere Reserve, Sonora, Mexico (Cockrum and Petryszyn 1991). The numbers above indicate that although a relatively large number of lesser long-nosed bats exist, the relative number of known large roosts is quite small.

Maternity roosts, suitable day roosts, and concentrations of food plants are all critical resources for the lesser long-nosed bat. All of the factors that make roost sites useable have not yet been identified, but maternity roosts tend to be very warm and poorly ventilated (U.S. Fish and Wildlife Service 1997). Human presence/disturbance at roosts is clearly an important factor as

bats appear to be particularly sensitive to human disturbance at roost sites. For example, the illegal activity, presumably by immigrants or smugglers, at the Bluebird maternity roost site, caused bats to abandon the site in 2002, 2003, and 2005. The presence of alternate roost sites may be critical when this type of disturbance occurs.

The lesser long-nosed bat recovery plan (U.S. Fish and Wildlife Service 1997) identifies the need to protect foraging areas and food plants such as columnar cacti and agaves. More information regarding the average size of foraging areas around roosts would be helpful to identify the minimum area around roosts that should be protected to maintain adequate forage resources.

The 2005 fires referred to under Sonoran Pronghorn “Status of the Species” affected some lesser long-nosed bat foraging habitat, though the extent is unknown. For example, the Goldwater, Aux, and Sand Tank Fire Complexes on BMGR-East burned through and around isolated patches of saguaros, but the immediate effects and longer term impacts of the fires on saguaros are not yet known. Monitoring of saguaro mortality rates should be done to assess the impacts on potential lesser long-nosed bat foraging habitat. Fire suppression activities associated with the 2005 fires could also have affected foraging habitat. For example, slurry drops may have left residue on saguaro flowers, which could have impacted lesser long-nosed bat feeding efficiency or resulted in minor contamination.

Drought (see the “Status of the Species” and “Environmental Baseline” for Sonoran pronghorn for further details regarding drought) may affect lesser long-nosed bat foraging habitat, though the effects of drought on bats are not well understood. The drought in 2004 resulted in near complete flower failure in saguaros throughout the range of lesser long-nosed bats. During that time however, in lieu of saguaro flowers, lesser long-nosed bats foraged heavily on desert agave (*Agave deserti*) flowers, a plant not typically used by lesser long-nosed bats (personal communication with Scott Richardson, FWS, March 20, 2006). Similarly, there was a failure of the agave bloom in southeastern Arizona in 2006, probably related to the ongoing drought. As a result, lesser long-nosed bats left some roosts earlier than normal, and increased use of hummingbird feeders by lesser long-nosed bats was observed in the Tucson area (personal communication with Scott Richardson, FWS, January 11, 2008). Monitoring bats and their forage during drought years is needed to better understand the effects of drought on this species.

We have produced numerous biological opinions on the lesser long-nosed bat since it was listed as endangered in 1988, some of which anticipated incidental take. Incidental take has been in the form of direct mortality and injury, harm, and harass and has typically been only for a small number of individuals. Because incidental take of individual bats is difficult to detect, incidental take has often been quantified in terms of loss of forage resources, decreases in numbers of bats at roost sites, or increases in proposed action activities.

A few examples of more recent biological opinions that anticipated incidental take for lesser long-nosed bats are summarized below. The 2007 biological opinion for the installation of one 600 kilowatt wind turbine and one 50KW mass megawatts wind machine on Fort Huachuca included incidental take in the form of 10 bats caused by blade-strikes for the life (presumed indefinite) of the proposed action. The 2005 biological opinion for implementation of the Coronado National Forest Land and Resource Management Plan (U.S. Forest Service) included

incidental take in the form of harm or harass. The amount of take for individual bats was not quantified; instead take was to be considered exceeded if simultaneous August counts (at transitory roosts in Arizona, New Mexico, and Sonora) drop below 66,923 lesser long-nosed bats (the lowest number from 2001 – 2004 counts) for a period of two consecutive years as a result of the action. The 2004 biological opinion for the Bureau of Land Management Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management included incidental take in the form of harassment. The amount of incidental take was quantified in terms of loss of foraging resources, rather than loss of individual bats. The 2003 biological opinion for Marine Corps Air Station (MCAS) – Yuma Activities on the BMGR included incidental take in the form of direct mortality or injury (five bats every 10 years). Because take could not be monitored directly, it was to be considered exceeded if nocturnal low-level helicopter flights in certain areas on the BMGR increased significantly or if the numbers of bats in the Agua Dulce or Bluebird Mine roosts decreased significantly and MCAS-Yuma activities were an important cause of the decline. The 2002 biological opinion for Department of the Army Activities at and near Fort Huachuca (Fort), Arizona anticipated incidental take in the form of direct mortality or injury (six bats over the life of the project), harassment (20 bats per year), and harm (10 bats over the life of the project).

ENVIRONMENTAL BASELINE

A. Action Area

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR §402.02). The FWS has determined that the action area for the lesser long-nosed bat includes the areas directly impacted by the installation of primary fence (including the fence and access roads) and an area around the project defined by a circle with a radius of 36 miles (the maximum documented one-way foraging distance of the lesser long-nosed bat). The action area represents only a small portion of the lesser long-nosed bat's range.

Management of the action area is largely by Federal agencies, as described in the "Action Area" for Sonoran pronghorn. The action area for the lesser long-nosed bat also includes part of the Tohono O'odham Nation (TON) and lands near the border in Sonora.

B. Terrain, Vegetation Communities, and Climate in the Action Area

A description of the region encompassing the action area has been previously provided (see "Environmental Baseline", part B. Terrain, Vegetation Communities, and Climate in the Action Area" for the Sonoran pronghorn).

The project is near the Sonoyta and Puerto Blanco mountains. Suitable day and night roosting potentially occur within the immediate project vicinity, however, these areas have not recently been surveyed for lesser long-nosed bat roosts.

C. Status of the Lesser Long-Nosed Bat in the Action Area

Based on the known foraging distances for lesser long-nosed bats, it is likely that this species forages throughout portions of the OPCNM, CPNWR, TON, and BLM lands, where flowers and fruit of saguaro, organ pipe, prickly pear, and agave are available.

Three large maternity roosts occur in the action area, including Bluebird Mine, Copper Mountain Mine, and Pinacate Cave. Bluebird Mine, located along the eastern border of CPNWR in the Growler Mountains, is over 15 miles northwest of the nearest border portion of the project site and generally supports an estimated 3,000 lesser long-nosed bats at the peak of annual occupancy (U.S. Fish and Wildlife Service 1997). The highest estimate of lesser long-nosed bats using Bluebird Mine from 2001-2005 was 4,500. They abandoned the mine however in 2002, 2003, and 2005 due to disturbance from illegal activities. In 2004, the bats returned to the mine after CPNWR staff placed a high steel fence around the mine to prevent disturbance. The bats returned to the mine in 2005, however abandoned the site once again after the fence was damaged, presumably by illegal immigrants or smugglers.

Copper Mountain Mine, located within the OPCNM, is about 15 miles north of the nearest border portion of the project and supports approximately 25,000 bats at the peak of annual occupancy (National Park Service 2002). The highest estimate of lesser long-nosed bats using Copper Mountain Mine from 2001-2005 was 35,000.

The largest maternity roost in the project area is Pinacate Cave in northern Sonora, Mexico. Approximately 40 miles south of the nearest border portion of project site, this roost is estimated to support about 130,000 bats each year (U.S. Fish and Wildlife Service 1997). In May 2006, approximately 200,000 lesser long-nosed bats were counted at the Pinacate Cave. However, in 2007, a significantly lower number of lesser long-nosed bats (83,000) were observed at this roost.

Before they give birth, female bats probably occasionally move between the Bluebird and Copper Mountain roosts, and it has been recommended that these two roosts be censused simultaneously to avoid double-counting bats (U.S. Fish and Wildlife Service 1997). Observations at Copper Mountain and Pinacate Cave indicate that they are occupied from mid-April to early-to-mid-September (U.S. Fish and Wildlife Service 1997), although these roosts reach their peak occupancy in late spring/early summer.

Though OPCNM and CPNWR monitor the Copper Mountain and Bluebird roosts annually to determine the presence, abundance, and disturbance of lesser long-nosed bats, including examining the roost year round for evidence of human entry, the rest of OPCNM and CPNWR has not been well surveyed to determine the number of additional day and night roosts that might exist in natural caves and/or mineshafts. A small roost or roosts is known to occur in the Agua Dulce Mountains in the southeastern corner of the CPNWR, though the current status (i.e., whether lesser long-nosed bats are still using the site) of the roost is unknown. Smaller day roosts are known in other mine tunnels, and are also suspected in other mines and natural rock crevices and caves. Short-term night roosts are known in natural caves, under the eaves of buildings, and inside several abandoned buildings associated with past ranching activities. It is likely that there is within- and between-season interchange between these colonies, perhaps even within and between nights (U. S. Fish and Wildlife Service 1997).

Flowers and fruits of saguaro, organ pipe cactus, and cardon provide nearly all of the energy and nutrients obtained by pregnant and lactating females roosting in the Sonoran Desert in the spring and early summer (U.S. Fish and Wildlife Service 1997). Saguaro, which is common and abundant throughout much of the BMGR, CPNWR, and OPCNM; and organ pipe cactus, which is common at OPCNM and localized in the eastern portions of CPNWR and BMGR, and portions of the TON, flower in May and fruit mature in June and July (Benson and Darrow 1982). Lesser long-nosed bats feed on both the nectar and fruits of these cacti. When cacti fruit are scarce or unavailable in late July or early August, agave nectar may be the primary food resource for lesser long-nosed bats in OPCNM, CPNWR, and TON. Agaves typically bolt or flower and provide a nectar resource for foraging bats from about July into October. Desert agave occurs in mountainous areas within the action area. As mentioned above under “Status of the Species”, fires and drought may affect some lesser long-nosed bat foraging habitat within the action area, though the extent is unknown.

A number of activities occur in the action area that could affect bats. For example, our 1997 biological opinion on the OPCNM General Management Plan, found that the proposed action could result in incidental take of bats from recreation, specifically from unauthorized human disturbance to the Copper Mountain maternity roost. Our 2003 biological and conference opinion for the installation of the international boundary vehicle barrier on the OPCNM did not find the action could result in incidental take, but found that the project would result in the disturbance of 70 acres of potential lesser long-nosed bat foraging habitat, including the destruction of up to 750 to 1000 saguaro and 80 to 100 organ pipe cacti (about 400 to 600 of these were to be salvaged). Our 2006 biological opinion on the CBP - Office of the Border Patrol’s installation of a permanent vehicle barrier (as well as access improvements, construction/improvement of border roads, and associated maintenance and patrol activities) along the border from the western end of the OPCNM barrier to Avenue C just east of San Luis, Arizona, did not find the action could result in incidental take. It did find, however, that the project would result in the direct disturbance of approximately 207 acres of potential lesser long-nosed bat foraging habitat, including the destruction of up to 50 saguaros and 3 organ pipe cacti. About 200 saguaros in the project corridor were to be avoided or salvaged.

High levels of undocumented immigrant activities and narcotics trafficking (see “Environmental Baseline, part E. Threats” for the Sonoran pronghorn for further detail about undocumented immigrant activity) and the associated damage resulting to the landscape from their activities, as well the activities of law enforcement in pursuit of undocumented immigrants, is becoming an increasing threat, not just to lesser long-nosed bats but to all wildlife of the region. As stated earlier, much illegal traffic occurs through the Growler Mountains, and Bluebird Mine on CPNWR in the Growlers was vandalized by suspected illegal immigrants in June 2002, which resulted in at least four dead bats and abandonment of the roost. The bats returned to the mine in 2005; however, abandoned the site once again after the fence was damaged by illegal immigrants. Both OPCNM and CPNWR are planning to implement additional protective measures at Copper Mountain and Bluebird Mine, such as the possible construction of bat-friendly gates at roost entrances to prevent illegal human entry. However, lesser long-nosed bats are sensitive to bat gates and may not adapt readily to their use. Therefore, use of bat gates to protect these roosts may not be a feasible alternative

EFFECTS OF THE ACTION

Effects to Roosts

No known or suspected roost sites will be directly impacted by the proposed action. At its closest point, the proposed project is approximately 15 miles from the Copper Mountain roost on OPCNM and the Bluebird Mine roost on CPNWR, and will have no direct impact on these sites or the Pinacate Cave roost site. Neither will the proposed action directly impact any potential roosting habitat (mines, caves, etc.) on OPCNM.

The proposed action may have an indirect positive effect on lesser long-nosed bats using the Copper Mountain roost if the fence decreases the amount of illegal pedestrian traffic in areas directly north of the fence (the Copper Mountain roost site is located 15 miles north of the proposed fence). Decreases in illegal pedestrian traffic near roost sites decrease the possibility of illegal entry into these sites which can cause disturbance to bats (i.e., roost abandonment). The proposed action, however, may adversely affect lesser long-nosed bats using the Bluebird Mine roost if the fence results in the redirection of and subsequent increase in illegal pedestrian traffic through the eastern portions of CPNWR. We anticipate the likelihood of this occurring is relatively low.

Effects to Cross-Border Movements

The effects of fences on lesser long-nosed bat movement patterns are unknown. We do not anticipate the fence will greatly impact cross-border movement of lesser long-nosed bats because they are agile fliers and because the fence will not be installed along the entire border of OPCNM. If the fence does impede their cross-border movements, the ability of lesser long-nosed bats using the Pinacate roost to obtain adequate food resources will be diminished given their heavy reliance on these resources in OPCNM.

Effects to Foraging Habitat

The proposed project will result in the disturbance of lesser long-nosed bat food plants (approximately 206 to 266 saguaros and 295 to 397 organ pipe cacti⁵); however, as stated in the "Description of the Proposed Action", CBP will salvage (remove and replant outside the project corridor) all columnar cacti less than three feet tall to the extent practicable (approximately 74 saguaros and 68 organ pipe cacti⁵) and will attempt to salvage all columnar cacti between three and six feet tall (41 saguaro and 55 organ pipe cacti⁵) that face danger of destruction within the project corridor as determined by the biological monitor and that have been identified using GPS-technology (either by GSRC or OPCNM). Because saguaros and organ pipe cacti less than 6 feet tall generally do not flower, the salvaged cacti, once replanted, will not be available as a forage resource for lesser long-nosed bats until they reach the size at which they flower. Construction activities associated with the proposed project will likely destroy approximately 91 to 126 saguaros and 172 to 285 organ pipe cacti on the OPCNM; approximately 115 to 140 saguaros and 112 to 123 organ pipe within the project corridor will be salvaged. Seedlings that

⁵ During a recent survey (February 2008), OPCNM staff counted a total of 140 salvageable saguaros and 112 salvageable organ pipe cacti and 126 non-salvageable saguaros and 285 non-salvageable. These numbers differ from those provided by GSRC; however, regardless of the exact number, all saguaros and organ pipe determined to be salvageable within the project footprint will be salvaged.

may have been missed during the surveys⁶ will likely be destroyed by project activities. Additionally, the roots and rooting areas of plants adjacent to the project corridor might also be damaged, which may affect plant vigor and cause increased plant mortality.

According to BP, the proposed project will result in the permanent disturbance of about 45 acres. Of this, about 17 acres was previously disturbed by the installation of PVBs; however, about 28 acres of potential lesser long-nosed bat foraging habitat adjacent to the international border will be newly disturbed. The 45 acres of disturbed ground will be susceptible to colonization by invasive non-native plants such as buffelgrass, Sahara mustard, and *Eruca vesicaria*. Non-native species may prevent the recruitment of lesser long-nosed bat forage species (columnar cacti and agaves) and may also carry fire that could also impact lesser long-nosed bat forage species. Most Sonoran Desert trees, shrubs, and cacti are very fire intolerant. For example, fires at Saguaro National Park resulted in greater than 20 percent mortality of mature saguaros (Schwalbe *et al.* 2000).

In addition to areas directly disturbed by the project, we anticipate some, unquantifiable amount of potential lesser long-nosed bat foraging habitat will be affected by altered hydrology and increased erosion and sedimentation caused by the fence and associated road. Though the Final EA says that the fence and road will be designed and constructed in a way that would not alter drainage patterns or cause increased downstream erosion and sedimentation, we expect some effects to hydrological function based on the effects of the OPCNM PVB. According to the Research and Endangered Species Coordinator at OPCNM, after significant rainfall events, debris becomes lodged on the OPCNM PVBs (six inch-wide posts on five-foot centers), which creates a dam that causes water to pool upstream (up to 100+ feet) and laterally (up to 300+ feet)(electronic mail from Tim Tibbits, October 4, 2007). We anticipate the fence and road will cause at least some changes in hydrology, as well as increased erosion and sedimentation.

Destruction of and damage to lesser long-nosed bat forage plants and disturbance of potential bat foraging habitat will reduce food available to the lesser long-nosed bat; this will likely adversely affect bats, especially during drought periods when forage availability is already impaired. It is difficult to evaluate the significance of the loss of foraging habitat; however, this loss is small compared to the large amount of potentially suitable foraging habitat available to the lesser long-nosed bat throughout the action area. However, it is still extremely important that effects to forage resources are minimized.

The proposed project may result in fewer disturbances to lesser long-nosed bat foraging habitat directly north of the fence if the fence decreases the amount of illegal pedestrian and pursuant law enforcement traffic in these areas. Construction of the fence, if it redirects illegal pedestrian and pursuant law enforcement activities to the east and west of the fence, however, may result in greater disturbance of lesser long-nosed bat foraging habitat in these areas. Trails and other soil disturbance can increase erosion, promote the spread of invasive plant species, and increase the potential for fires, which can adversely affect lesser long-nosed bat food resources. Off-road vehicle travel may damage the shallow root systems of large columnar cacti, causing loss of

⁶ Gulf South Research Corporation conducted surveys in August 2007 by walking, with 30 feet between two surveyors, the project corridor and recording the species and location of each columnar cactus seen.

vigor or death, and result in destruction of numerous columnar cacti, and can be assumed to destroy large numbers of seedlings. Also, off-road travel can cause changes in surface hydrology (from channelization of water in entrenched vehicle track prisms), which can adversely affect vegetation, including lesser long-nosed bat forage species.

Though nighttime construction is not anticipated, if it occurs within bat foraging habitat, bat foraging behavior may be temporarily affected. Because bats are nocturnal, we do not anticipate that daytime construction and maintenance activities will affect bat foraging behavior.

Conservation measures

Environmental design measures incorporated into the project, such as implementing erosion control techniques and constructing the fence in arroyos in a way that ensures proper conveyance of floodwater, will help minimize project impacts to lesser long-nosed bat foraging habitat.

Additionally, CBP's commitment to salvage, replant, and monitor the success of 238 columnar cacti; restore 84 acres within OPNCM, and control non-native plants within the project footprint, will help offset project impacts to lesser long-nosed bats.

CUMULATIVE EFFECTS

Most lands within the action area are managed by Federal agencies; thus, most activities that could potentially affect bats are Federal activities that are subject to section 7 consultation. The effects of these Federal activities are not considered cumulative effects. However, a portion of the action area also occurs on the TOIR, on private lands in the U.S., and in Mexico. Residential and commercial development, farming, livestock grazing, surface mining and other activities occur on these lands and are expected to continue into the foreseeable future. These actions, the effects of which are considered cumulative, may result in small-scale loss or degradation of lesser long-nosed bat foraging habitat, and potential disturbance of roosts. Illegal immigrant/smuggler activities, described above under "Cumulative Effects" for pronghorn, can result in loss or degradation of potential lesser long-nosed bat foraging habitat (impacts to foraging habitat have not been quantified however) and disturbance to and abandonment of roosts, as has been documented at the Bluebird Mine roost site. Though immigrant/smuggler activity has been high in recent years, it has declined recently, likely due to increased law enforcement presence (see Cumulative Effects for the pronghorn). In spite of these activities, lesser long-nose bat populations appear to be increasing or stable at many roost sites within and outside the action area.

CONCLUSION

After reviewing the current status of the lesser long-nosed bat, the environmental baseline for the action area, the effects of the proposed activities associated with the Lukeville fence project, and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the lesser long-nosed bat. No critical habitat has been designated for this species, therefore, none will be affected. Our conclusion is based on the following:

1. Lesser long-nosed bat populations appear to be increasing or stable at many roost sites in Arizona and Mexico.
2. The project will not directly affect any known bat roosts in the action area (Bluebird Mine, Copper Mountain Mine, and Pinacate Cave).
3. The project may increase the possibility of disturbance to bats at the Bluebird Mine roost site if it results in the redirection of and subsequent increase in illegal pedestrian traffic through the eastern portions of CPNWR; however, we anticipate the likelihood of this occurring is relatively low.
4. The project will result in direct loss of 28 acres of lesser long-nosed bat foraging habitat, but disturbance to and loss of foraging habitat and forage plants will be minimized through environmental design measures, such as implementing erosion control, and offset through conservation measures, such as the salvage of columnar cacti and habitat restoration. Specifically, CBP will salvage (remove and replant outside the project corridor) all columnar cacti less than three feet tall to the extent practicable and will attempt to salvage all columnar cacti between three and six feet tall (an estimated 238 saguaro and organ pipe cacti will be salvaged) that face danger of destruction within the project corridor as determined by the biological monitor and that have been identified using GPS-technology (either by GSRC or OPCNM). Additionally, CBP will fund the restoration of 84 acres within OPCNM.

The conclusions of this biological opinion are based on full implementation of the project as described in the "Description of the Proposed Action" section of this document, including any conservation measures that were incorporated into the project design.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR 17.3). "Harass" is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering (50 CFR 17.3). "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

AMOUNT OR EXTENT OF TAKE ANTICIPATED

We do not anticipate the proposed action will result in incidental take of lesser long-nosed bat for the following reasons:

1. The project will not directly affect any known bat roosts.
2. Impacts to bat foraging habitat and plants will be minimized and offset.

DISPOSITION OF DEAD OR INJURED LISTED SPECIES

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 2450 West Broadway Road, Suite 113, Mesa, Arizona, 85202, telephone: 480/967-7900), made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care and in handling dead specimens to preserve the biological material in the best possible state.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. We recommend implementing the following actions:

1. In conjunction with OPCNM, CPNWR, BMGR, BLM, and TON facilitate restoration (i.e., re-contour entrenched areas, ensure the establishment of native vegetation, etc.) of areas degraded by off-route travel (by illegal immigrants/smugglers and OBP) within the action area (in addition to the areas that will be restored as part of the proposed action).
2. Monitor or provide funding to land managers to monitor future ecological conditions in the action area, including the overall success of active and passive restoration (i.e., the degree to which native vegetation becomes reestablished on illegal routes, the degree to which non-native invasive plants have decreased or increased, etc.).
3. Assist agencies in the control of non-native plants that may alter fire frequencies and intensities within OPCNM, CPNWR, BMGR, BLM, and TON, and in developing methods for controlling these species (lesser long-nosed bat Recovery Plan task 2).
4. Provide annual financial assistance (at least until illegal CPNWR immigrant/smuggler entry into southwestern Arizona is significantly reduced) to OPCNM, CPNWR, BMGR, BLM, and TON to monitor the effects of illegal immigrants/smugglers on lesser long-

- nosed bat roosts and foraging habitat and to restore habitat and implement protective measures for lesser long-nosed bats, such as fencing around roost sites.
5. Provide annual financial assistance (at least until illegal immigrant/smuggler entry into southwestern Arizona is significantly reduced) to OPCNM, CPNWR, BMGR, and BLM to monitor the effects of illegal immigrants/smugglers on pronghorn and their habitat, particularly near forage enhancement plots, water sites, and the semi-captive breeding pen, and to restore habitat and implement recovery actions for the Sonoran pronghorn.
 6. Provide ongoing financial support to agencies to implement the Sonoran pronghorn and lesser long-nosed bat recovery plans, as appropriate.
 7. Tucson and Yuma Sector offices should each have a full-time biologist or environmental specialist to assist OBP compliance with ESA, NEPA, and other environmental requirements; to provide environmental training to agents; and to coordinate with agencies regarding environmental issues.

In order for us to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action outlined in this biological opinion. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

We appreciate CBP's efforts to identify, minimize, and offset effects to listed species from the project. For further information, please contact Erin Fernandez (x238) or Jim Rorabaugh (x230) of our Tucson Suboffice at (520) 670-6150. Please refer to the consultation number 22410-2008-F-0011 in future correspondence concerning this project.

Sincerely,

Steven L. Spangle
Field Supervisor

Mr. George Hutchinson

44

cc: Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ
Superintendent, Organ Pipe Cactus National Monument, Ajo, AZ
Refuge Manager, Cabeza Prieta National Wildlife Refuge, Ajo, AZ
Director Construction and Support Office, Army Corps of Engineers, Ft. Worth, TX (Attn: Charles McGregor)
Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Regional Supervisor, Arizona Game and Fish Department, Tucson, AZ
Regional Supervisor, Arizona Game and Fish Department, Yuma, AZ
Gulf South Research Corporation, Baton Rouge, LA (Attn: Chris Ingram)
Chairperson, Tohono O'Odham Nation, Sells, AZ

REFERENCES CITED

- Alford, E.J., and J.H. Brock. 2002. Effects of fire on Sonoran Desert plant communities. Page 20 in W.L. Halvorson and B.S. Gebow (eds.), *Creative Cooperation in Resource Management: Fourth Conference on Research and Management in the Southwestern Deserts*, extended abstracts. USGS Sonoran Desert Field Station, University of Arizona, Tucson, AZ.
- Arizona Game and Fish Department (AGFD). 2005. Comments submitted 5/3/05 and 5/12/05, in response to Federal Register Notice of Review (70 FR 5460) for the lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*).
- Bright, J.L., and J.J. Hervet. 2005. Adult and fawn mortality of Sonoran pronghorn. *Wildlife Society Bulletin* 33(1):43-50.
- Bright, J.L., J.J. Hervet, L.A. Piest, R.S. Henry, and M. T. Brown. 1999. Sonoran pronghorn 1998 aerial survey summary. Nongame and Endangered Wildlife Program Technical Report No. 152. Arizona Game and Fish Department, Phoenix, AZ.
- Bright, J.L., J.J. Hervet, and M.T. Brown. 2001. Sonoran pronghorn 2000 aerial survey summary. Technical Report No. 180. Arizona Game and Fish Department, Phoenix, AZ.
- Brown, D.E. 1982. Biotic communities of the American Southwest – United States and Mexico. *Desert Plants* 4(1-4):1-342.
- Brown, D.E., and R.A. Minnich. 1986. Fire and changes in creosote bush scrub of the western Sonoran Desert, California. *American Midland Naturalist* 116(2):411-422.
- Carr, J.N.. 1974. Complete report-Endangered species investigation. Sonoran pronghorn. Arizona Game and Fish Department, Phoenix, AZ.
- Cherkovich, G.M., and S.K. Tatoyan. 1973. Heart rate (radiotelemetric registration) in macaques and baboons according to dominant-submissive rank in a group. *Folia Primatol* 20:265-273.
- Cockrum, E.L., and Y. Petryszyn. 1991. The lesser long-nosed bat. *Leptonycteris*: An endangered species in the Southwest? Texas Tech Univ., Occas. Pap. Mus., Number 142.
- Dalton, V.M., D.C. Dalton, and S.L. Schmidt. 1994. Roosting and foraging use of a proposed military training site by the long-nosed bat, *Leptonycteris curasoae*. Report to the Luke Air Force Natural Resources Program, Contract Nos. DACA65-94-M-0831 and DACA65-94-M-0753. 34pp.

- Defenders of Wildlife. 1998. Population viability analysis workshop for the endangered Sonoran pronghorn (*Antilocapra americana sonoriensis*) in the United States. Defenders of Wildlife unpublished manuscript, Washington, D.C.
- deVos, J.C., and W.H. Miller. 2005. Habitat use and survival of Sonoran pronghorn in years with above-average rainfall. *Wildlife Society Bulletin* 33(1):35-42.
- Ehrlich, P.R., and J. Roughgarden. 1987. *The Science of Ecology*. MacMillan Publishing Co., New York, N.Y.
- Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed horned lizard rangewide management strategy, 2003. 78 pp. plus appendices.
- Fox, L.M., P.R. Krausman, M.L. Morrison, and R.M. Kattnig. 2000. Water and nutrient content of forage in Sonoran pronghorn habitat, Arizona. *California Fish and Game* 86(4): 216-232.
- Geist, V. 1971. A behavioral approach to the management of wild ungulates. *In* E. Duffey and A.S. Watts, eds., *The Scientific Management of Animal and Plant Communities for Conservation*. Symposium of the British Ecological Society No. 11. Blackwell Science Publications, Oxford, U.K.
- Gentry, H.S. 1982. Agaves of continental North America. Pages 443-447 and 538-545, University of Arizona Press, Tucson, Arizona.
- Gerstenzang, J. 2006. Bush visits border, urges Senate action. *Los Angeles Times*, May 19, 2006.
- Gilpin, M.E. and M.E. Soulé. 1986. Minimum viable populations: processes of extinction. *In* M.E. Soulé, ed., *Conservation Biology: The science of scarcity and diversity*. Sinauer Associates, Sunderland, MA.
- Goldman, E.A. 1945. A new pronghorn from Sonora. *Proceedings of the Biological Society, Washington* 58:3-4.
- Harlow, H.J., E.T. Thorn, E.S. Hilliams, E. L. Belden, and W.A. Gern. 1987. Cardiac frequency: a potential predictor of blood cortisol levels during acute and chronic stress exposure in Rocky Mountain bighorn sheep (*Ovis canadensis canadensis*). *Canadian Journal of Zoology* 65:2028-2034.
- Hecht, A. and P.R. Nickerson. 1999. The need for predator management in conservation of some vulnerable species. *Endangered Species Update* 16:114-118.

- Hervert, J.J., J.L. Bright, M.T. Brown, L.A. Piest, and R.S. Henry. 2000. Sonoran pronghorn population monitoring: 1994-1998. Nongame and Endangered Wildlife Program Technical Report No. 162. Arizona Game and Fish Department, Phoenix, AZ.
- Hervert, J.J. J.L. Bright, R.S. Henry, L.A. Piest, and M.T. Brown. 2005. Home-range and habitat-use patterns of Sonoran pronghorn in Arizona. Wildlife Society Bulletin 33(1):8-15.
- Hervert, J.J., L.A. Piest, R.S. Henry, and M.T. Brown. 1997a. Sonoran pronghorn 1996 aerial survey summary. Nongame and Endangered Wildlife Program Technical Report No. 124. Arizona Game and Fish Department, Phoenix, AZ.
- Hervert, J.J., L.A. Piest, W. Ballard, R.S. Henry, M.T. Brown, and S. Boe. 1997b. Sonoran pronghorn population monitoring: progress report. Nongame and Endangered Wildlife Program Technical Report No. 126. Arizona Game and Fish Department, Phoenix, AZ.
- Hoffmeister, D.F. 1986. Mammals of Arizona. University of Arizona Press, Tucson.
- Horner, M.A., T.H. Fleming, and M.D. Tuttle. 1990. Foraging and movement patterns of a nectar feeding bat: *Leptonycteris curasoae*. Bat Research News 31:81.
- Hosack, D.A., P.S. Miller, J.J. Hervert, and R.C. Lacy. A population viability analysis for the endangered Sonoran pronghorn, *Antilocapra americana sonoriensis*. Mammalia 66(2):207-229.
- Hughes, K.S., and N.S. Smith. 1990. Sonoran pronghorn use of habitat in Southwest Arizona. Report to Cabeza Prieta National Wildlife Refuge, Ajo, AZ.
- Intergovernmental Panel on Climate Change. 2007. Summary for policymakers of the synthesis report of the IPCC fourth assessment report. Draft copy, 16 November 2007.
- International Boundary Commission. 1936. Investigations Relating to the Establishment of a Federal Zone Along the International Boundary United States and Mexico From the Rio Grande to the Pacific Ocean. Report of the American Commissioner. El Paso, Texas.
- Johnson, B.K., F.G. Lindzey, and R.J. Guenzel. 1991. Use of aerial line transect surveys to estimate pronghorn populations in Wyoming. Wildlife Society Bulletin 19:315-321.
- Kindschy, R.R., C. Sundstrom, and J.D. Yoakum 1982. Wildlife habitats in managed rangelands - the Great Basin of southeastern Oregon: pronghorn. General Technical Report PNW-145. U.S. Department of Agriculture, Northwest Forest and Range Experimental Station, Portland, OR.
- Klein, K. 2000. Mass smugglings of immigrants on the increase. March 13, Desert Sun, Palm Springs, www.thedesertsun.online.com.

- Krausman, P.R., L.K. Harris, C.L. Blasch, K.K.G. Koenen, and J. Francine. 2004. Effects of military operations on behavior and hearing of endangered Sonoran pronghorn. *Wildlife Monographs* 157:1-41.
- Krausman, P.R., L.K. Harris, S.H. Haas, K.K.G. Koenen, P. Devers, D. Bunting, and M. Barb. 2005a. Sonoran pronghorn habitat use on landscapes disturbed by military activities. *Wildlife Society Bulletin* 33(1):16-33.
- Krausman, P.R., J.R. Morgart, L.K. Harris, C.S. O'Brian, J.W. Cain III, and S.S. Rosenstock. 2005. Introduction: management for the survival of Sonoran pronghorn in the United States. *Wildlife Society Bulletin* 33(1):5-7.
- Krausman, P.R., L.K. Harris, and J. Francine. 2001. Long-term study of the noise effects of military overflights on the Sonoran pronghorn, Barry M. Goldwater Range, Luke Air Force Base, Arizona. U.S. Air Force Contract F41624-98-C-8020-P00003.
- Leftwich, T.J., and C.D. Simpson. 1978. The impact of domestic livestock and farming on Texas pronghorn. *Pronghorn Antelope Workshop Proceedings* 8:307-320.
- Marine Corps Air Station-Yuma. 2001. Yuma Training Range Complex draft supplemental environmental impact statement. U.S. Department of Defense, Marine Corps Air Station, Yuma, AZ.
- Mearns, E.A. 1907. Mammals of the Mexican boundary of the United States, Part 1. *Bulletin of the U.S. National Museum* 56:XVT530.
- Milstead, B, and B. Barns. 2002. Life on the border: monitoring the effects of border-crossing and law enforcement on natural resources. W.L. Halvorson and B.S. Gebow, eds., *Meeting resource management information needs: fourth conference on research and resource management in the southwestern deserts, extended abstracts*. USGS Sonoran Desert Field Station, University of Arizona, Tucson: 87-88.
- Miskus, D. 2006. U.S. drought monitor. U.S. Department of Agriculture, National Drought Mitigation Center. <http://drought.unl.edu/dm/monitor.html>.
- Moen, A.N., M.A. DellaFera, A.L. Hiller, and B.A. Buxton. 1978. Heart rates of white-tailed deer fawns in response to recorded wolf howls. *Canadian Journal of Zoology* 56:1207-1210.
- Monson, G. 1968. The desert pronghorn. *In* Desert Bighorn Council Transactions. Las Vegas, NV.

- Morgart, J.R., J.J. Herver, P.R. Krausman, J.L. Bright, and R.S. Henry. 2005. Sonoran pronghorn use of anthropogenic and natural waters. *Wildlife Society Bulletin* 33(1):51-60.
- National Park Service. 2002. Threatened, endangered and sensitive species: Annual summary of activities. Resources Management Division, Organ Pipe Cactus National Monument, Ajo, Arizona.
- Nelson, F.W. 1925. Status of the pronghorn antelope, 1922-1924. U.S. Department of Agriculture Bulletin No. 1346.
- Nowak, R.M., and J.L. Paradiso. 1983. Walker's mammals of the world. 4th Ed. Vol. II. Johns Hopkins University. Press, Baltimore, MD.
- Officer, J.E. 1993. Kino and agriculture in the Pimeria Alta. *Journal of Arizona History* 34:287-306.
- Organ Pipe Cactus National Monument. 2001. Draft supplemental environmental impact statement, re-analysis of cumulative impacts on the Sonoran pronghorn. Organ Pipe Cactus National Monument, Ajo, AZ.
- Paradiso, J.L., and R.M. Nowak. 1971. Taxonomic status of the Sonoran pronghorn. *Journal of Mammalogy* 52(4):855-858.
- Pinkava, D.J. 1999. Cactaceae Cactus Family, Part Three. In: *Vascular Plants of Arizona: Cactaceae - Cylindropuntia*. *Journal of the Arizona- Nevada Academy of Science* 32(1):32-47.
- Richter-Dyn, N., and N.S. Goel. 1972. On the extinction of a colonizing species. *Theoretical Population Biology* 3:406-433.
- Rowlands, P.G. 2000. Low temperature and other climatic trends at Organ Pipe Cactus National Monument. In W.L. Halvorson and B.S. Gebow, eds., *Creative Cooperation in Resource Management*, extended abstracts. U.S. Geological Survey, Western Ecological Research Center, Sonoran Desert Field Station, University of Arizona, Tucson, AZ.

- Rutman, S. 1997. Dirt is not cheap: livestock grazing and a legacy of accelerated soil erosion on Organ Pipe Cactus National Monument, Arizona. *In* J. M. Feller and D. S. Strouse, eds., Environmental, economic, and legal issues related to rangeland water developments. The Center for the Study of Law, Science and Technology, Arizona State University, Tempe, AZ.
- Samuel, M.D., and K.H. Pollock. 1981. Correction of visibility bias in aerial surveys where animals occur in groups. *Journal of Wildlife Management* 45(4):993-997.
- Schwalbe, C.R., T.C. Esque, P.J. Anning, and W.L. Halvorson. 2000. Exotic grasses, long-lived species, and managing desert landscapes: a case history at Saguaro National Park. Page 87 *in* W.L. Halvorson and B.S. Gebow (eds), Creative Cooperation in Resource Management: Third Conference on Research and Management in the Southwestern Deserts, extended abstracts. USGS Sonoran Desert Field Station, University of Arizona, Tucson, AZ.
- Seager, R., M. Ting, T. Held, Y. Kushnir, J. Lu, G. Vecchi, H. Huang, N. Harnik, A. Leetmaa, N. Lau, C. Li, J. Velez, and N. Naik. 2007. Model projections of an imminent transition to a more arid climate in southwestern North America. *Science* 316:1181-1184.
- Segee, B.P., and J.L. Neeley. 2006. On the line, the impacts of immigration policy on wildlife and habitat in the Arizona borderlands. *Defenders of Wildlife*, Washington, D.C. 40 p.
- Sheridan, T.E. 2000. Human ecology of the Sonoran Desert. *In* S.J. Phillips and P.W. Comus, eds., *A natural history of the Sonoran Desert*. Arizona-Sonora Desert Museum Press, Tucson, AZ.
- Sidner, R. 2000. Report of activities under permit TE-821369-0. Report to the US Fish and Wildlife Service, Albuquerque, New Mexico.
- Sidner, R. 2005. Fifteen years of monitoring the endangered lesser long-nosed bat (*Leptonycteris curasoae*) and other bat species on the Fort Huachuca Military Installation, Cochise County, Arizona. June-November 2004. EEC Project Report to Commander, U.S. Army Garrison, Fort Huachuca, AZ. 105 pp.
- Sidner, R. and F. Houser. 1990. Lunarphilia in nectar-feeding bats in Arizona. *Bat Research News* 31(4):15.
- Thompson, R.D., C.V. Grant, E.W. Pearson, and G.W. Corner. 1968. Cardiac response of starlings to sound: effects of lighting and grouping. *American Journal of Physiology* 214:41-44.

- Tibbitts, Tim. 2005. Annual report for threatened and endangered species permit No. TE19458-1. Resources Management Division, Organ Pipe Cactus National Monument, Ajo, Arizona.
- U.S. Fish and Wildlife Service. 1982. Sonoran pronghorn recovery plan. U.S. Fish and Wildlife Service, Region 2, Albuquerque, NM.
- U.S. Fish and Wildlife Service. 1988. Endangered and threatened wildlife and plants; determination of endangered status for two long-nosed bats. Federal Register 53(190):38456-3860.
- U.S. Fish and Wildlife Service. 1997. Lesser long-nosed bat recovery plan. Albuquerque, New Mexico. 49pp.
- U.S. Fish and Wildlife Service. 1998. Final revised Sonoran pronghorn recovery plan. U.S. Fish and Wildlife Service, Albuquerque, NM.
- U.S. Fish and Wildlife Service. 2001. Recovery criteria and estimates of time for recovery actions for the Sonoran pronghorn: a supplement and amendment to the 1998 final revised Sonoran pronghorn recovery plan. U.S. Fish and Wildlife Service, Albuquerque, NM.
- U.S. Customs and Border Protection. 2005. Preliminary draft biological assessment permanent vehicle barriers, Barry M. Goldwater Range and Cabeza Prieta National Wildlife Refuge, Yuma and Pima Counties, AZ. U.S. Customs and Border Protection, Washington, D.C.
- Wolf, S. and D. Dalton. 2005. Comments submitted 4/20/05 and 5/2/05, in response to Federal Register Notice of Review (70 FR 5460) for the lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*).
- Workman, G.D., T.D. Bunch, J.W. Call, F.C. Evans, L.S. Neilson, and E.M. Rawlings. 1992. Sonic boom and other disturbance impacts on pronghorn antelope (*Antilocapra americana*). Report to the U.S. Air Force, Hill Air Force Base, UT.
- Wright, R.L., and J.C. deVos. 1986. Final report on Sonoran pronghorn status in Arizona. Contract No. F0260483MS143, Arizona Game and Fish Department, Phoenix, AZ
- Yoakum, J.D., B.W. O'Gara, and V.W. Howard, Jr. 1996. Pronghorn on western rangelands. In P.R. Krausman, ed., Rangeland wildlife. The Society for Range Management, Denver, CO.
- Weiss, J.L., and J.T. Overpeck. 2005. Is the Sonoran Desert losing its cool? Global Change Biology 11:2065-2077.

TABLES AND FIGURES

Table 1. A summary of population estimates from literature and field surveys for Sonoran pronghorn in the U.S.

Date	Population estimate (95 percent CI ^a)	Source
1925	105	Nelson 1925
1941 ^b	60	Nicol 1941
1957	<1,000	Halloran 1957
1968	50	Monson 1968
1968-1974	50 - 150	Carr 1974
1981	100 - 150	Arizona Game and Fish Department 1981
1984	85 - 100	Arizona Game and Fish Department 1986
1992	179 (145-234)	Bright <i>et al.</i> 1999
1994	282 (205-489)	Bright <i>et al.</i> 1999
1996	130 (114-154)	Bright <i>et al.</i> 1999
1998	142 (125-167)	Bright <i>et al.</i> 1999
2000	99 (69-392)	Bright <i>et al.</i> 2001
2002	21 (18-33)	Bright and Hervert 2003
2004	58 (40-175)	Bright and Hervert 2005
2006	68 (52-116)	Unpublished data

^a Confidence interval; there is only a 5 percent chance that the population total falls outside of this range.

^b Population estimate for southwestern Arizona, excluding Organ Pipe Cactus National Monument.

Table 2. Comparison of U.S. Sonoran pronghorn population surveys, 1992-2006.

Date	<u>Pronghorn observed</u>		<u>Population estimates</u>		
	On transect	Total observed	Density estimate using DISTANCE (95 percent CI ^a)	Lincoln-Peterson (95 percent CI)	Sightability model (95 percent CI)
Dec 92	99	121	246 (103-584)	---	179 (145-234)
Mar 94	100	109	184 (100-334)	---	282 (205-489)
Dec 96	71	82 (95 ^b)	216 (82-579)	162 (4-324)	130 (114-154)
Dec 98	74	86 (98 ^b)	---	172 (23-321)	142 (125-167)
Dec 00	67	69 ^b	N/A	N/A	99 (69-392)
Dec 02	18	18	N/A	N/A	21 (18-33) ^c
Dec 04	39	51	N/A	N/A	58
Dec 06	51	59	N/A	N/A	68

^a Confidence interval; there is only a 5 percent chance that the population total falls outside of this range.

^b Includes animals missed on survey, but located using radio telemetry.

^c Jill Bright, Arizona Game and Fish Department, pers. comm. 2003

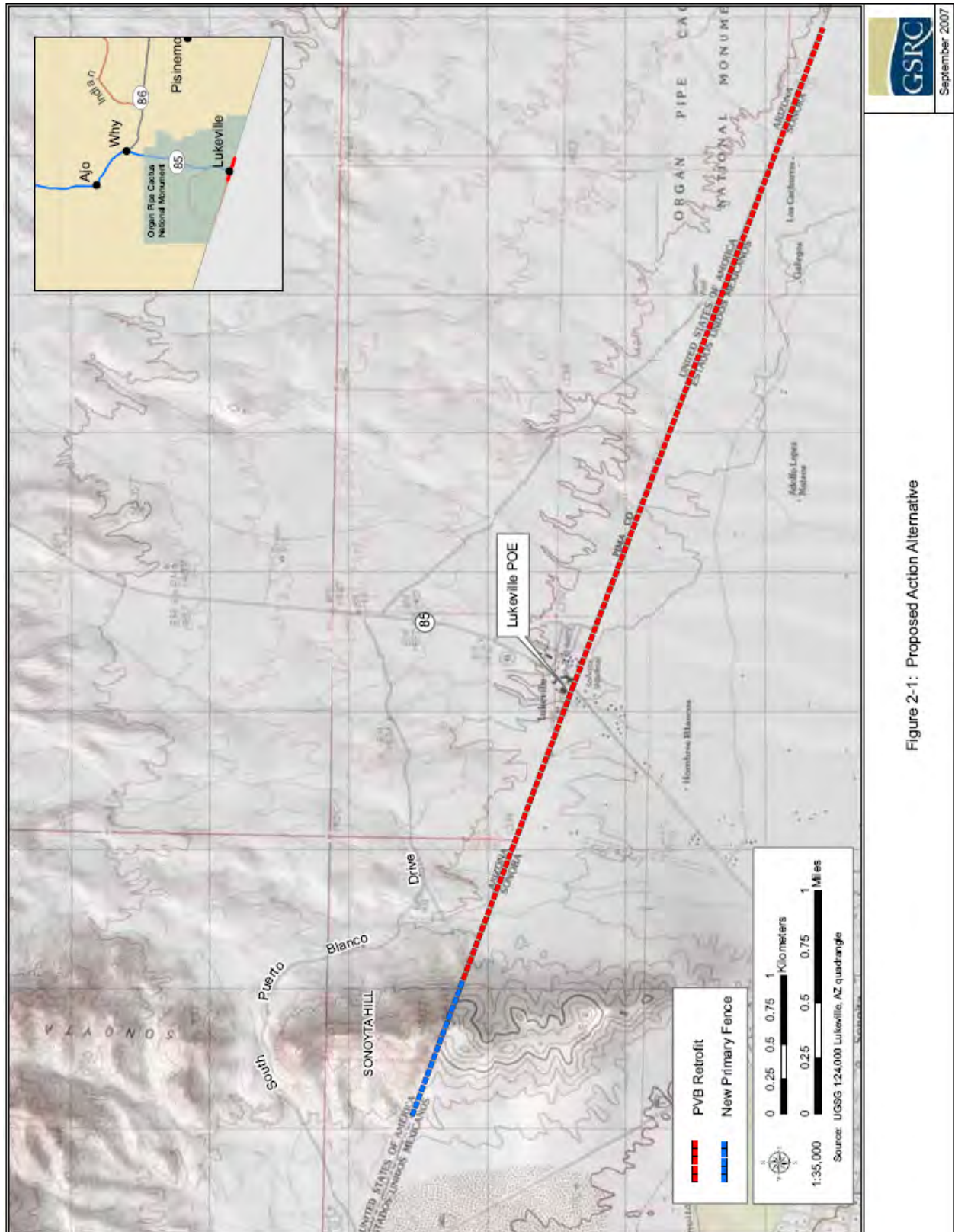
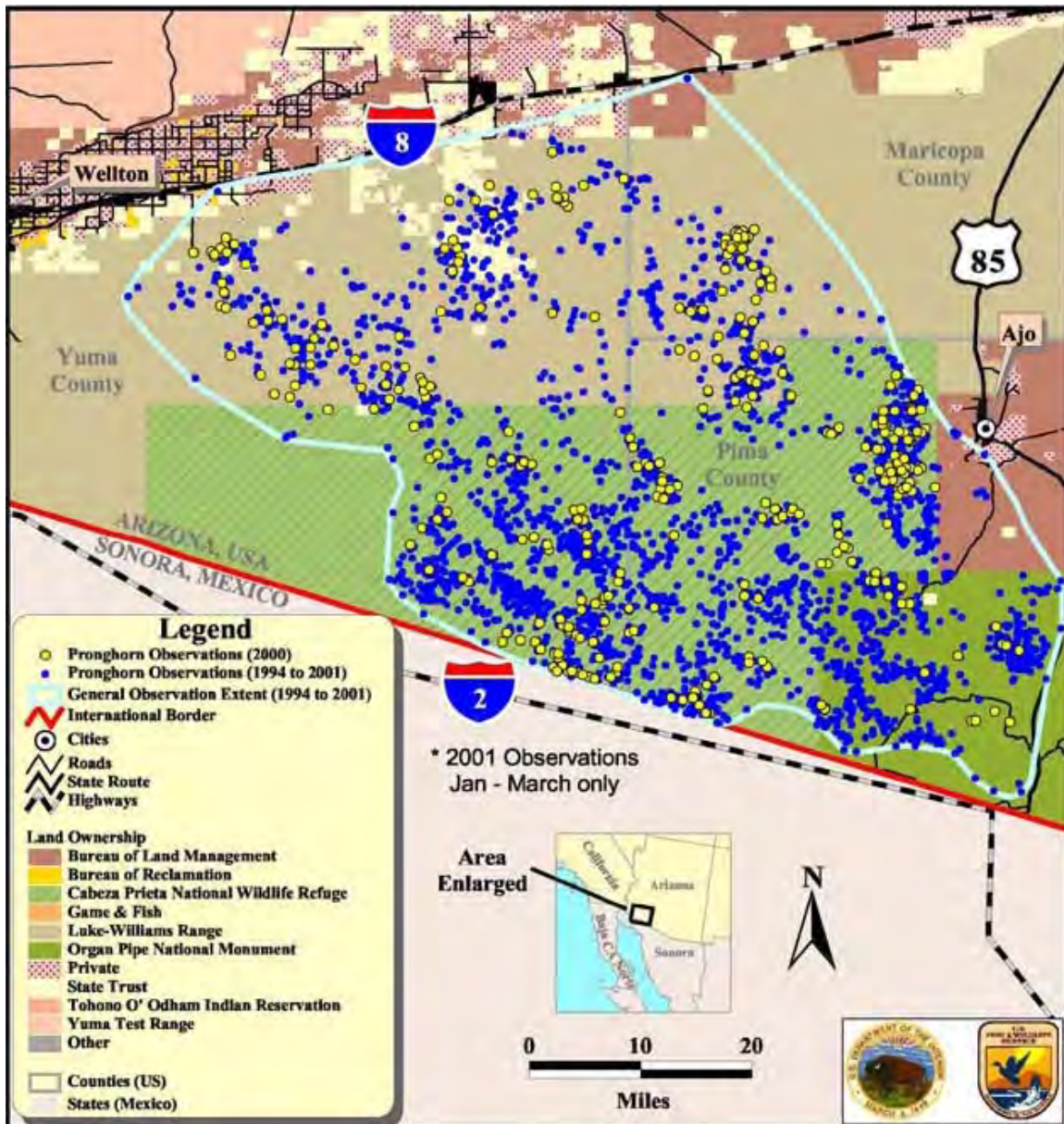
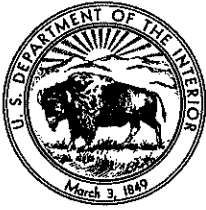
Figure 1. Proposed Lukeville Primary Fence Project corridor (Final EA, November 2007)

Figure 2. Historic range of Sonoran pronghorn in the Unites States and Mexico.

Figure 3. Current Sonoran pronghorn distribution in the United State: Records from 1994-2001.





United States Department of the Interior

NATIONAL PARK SERVICE
Organ Pipe Cactus National Monument
10 Organ Pipe Drive
Ajo, Arizona 85321-9626

IN REPLY REFER TO:

December 19, 2007

Mr. Eric W. Verwers
Director Engineering, Construction and Support Office
Department of the Army
Fort Worth District, Corps of Engineers
P.O. Box 17300
Fort Worth, Texas 76102-0300

Subject: Comments on November 2007 Final Environmental Impact Statement for the proposed installation of primary fence near Lukeville, Arizona

Thank you for the opportunity to comment on the subject document. We offer the following comments and recommendations.

General Comments

Organ Pipe Cactus National Monument (OPCNM) can not support the inclusion of the proposed 7 acres over Sonoyta Hill outside of the Roosevelt Reservation for construction of a road to access proposed work. National Park Service policy and practice in this area is clear. The decision to issue or deny a permit for a special use such as this proposed undertaking flows from the appropriate compliance under the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act of 1966 (NHPA), and other applicable laws. This November Environmental Assessment is inadequate as it lacks appropriate alternatives for construction, design of proposed work and mitigation to list a few of the concerns. It is within our mandate to protect these very important resources to this ecosystem and feel that with additional technology being discussed some fencing such as this proposed undertaking would not be necessary. The use of technology, such as the proposed SBInet (Southern Border Initiative network), should be evaluated with fence placement since they could support each other. The technological solution would cause much less long-term impacts to natural and cultural resources on OPCNM than would the proposed pedestrian fence.

The November 2007 Final Environmental Assessment (FEA) states that the pedestrian fence would be ineffectual without SBInet and vice versa. Since SBInet and the pedestrian fence form the basis for the border enforcement strategy in the OPCNM area, these actions should be evaluated in one NEPA document and not evaluated separately. We believe the proposed alternatives will have a significant and long-term impact on resources managed by the NPS.

The proposed action in the Executive Summary and the Alternatives does not agree. The alternative mentions the requirement of a construction footprint of 150 which is a major attribute of this project and should be in the summary if that is the intent.

In our comments on the October 2007 draft EA, we asked that the design allows for continued maintenance of the existing vehicle barrier. The request does not appear to be addressed in the FEA therefore that responsibility will be shifted to U.S. Department of Homeland Security since there will be no immediate and safe access for our staff. NPS will continue to maintain the permanent vehicle barrier in areas outside of the pedestrian fence.

The FEA repeatedly references the 2003 NPS FEA for the vehicle barrier. Although the 2003 EA is a convenient reference, it should not be used to describe the affected environment of the area that will be impacted by the proposed project. The pedestrian fence is proposed for only 5.2 miles, while the 2003 NPS FEA addresses impacts for a barrier more than 20 miles long and the construction differs immensely from a post and rail system to solid 10x15 foot panels.

References to resources at Quitobaquito are made throughout the document. Most of these should be removed, as the proposed project would not affect resources there and this site is remotely located from subject work area.

We include, by this reference, comments on the draft EA that we continue to believe are unaddressed issues.

Specific Comments

Page FONSI-5, Biological Resource: The revegetation plan that is mentioned to be completed after the construction activities should be reviewed and in place prior to the construction work. Additionally many elements missing such as what is being planned for all columnar cacti larger than 6 feet!

Page FONSI-5, Cultural Resources: We wish to clarify that the professional archeological monitors will be provided by the U.S. Border Patrol (USBP). Also, please identify the three historic objects that lie within the proposed construction corridor that will be monitored.

Page FONSI-5, Cultural Resources: Due to the amount of ground-clearing and digging involved with this project, we recommend that a professional archeological monitor be present for the entire extent of the project.

Page FONSI-5, Water Resources: If the Storm Water Pollution Protection Plan (SWPPP) requires a restoration plan, we request the opportunity to review and approve it.

Page 1-3, part 1.2.3. Background: Please correct the statement that all of the construction activities for the PVB along OPCNM's southern boundary occurred within OPCNM. Most of the construction activities occurred within the 60-ft Roosevelt Reservation.

Page 2-3, part 2.3.1. Technology: The FEA justifies the need for a fence in the Lukeville area by stating that physical barriers are the most effective at preventing illegal border crossings in the more populated areas of the Tucson sector. This rationale is unsupported in the Lukeville/Sonoyta area, where many of the more intensively used illegal border crossing areas along the southern boundary of OPCNM are in the more unpopulated areas.

Page 2-4, part 2.5 Summary: Table one states that the technological solution will not deter illegal pedestrian traffic, yet the USBP will be relying on this method to deter pedestrian traffic outside the pedestrian fence. Please explain.

Pages 2-5 and 2-6, Table 2-2 Summary Matrix: Please see our comments on these items in the Affected Environment Section (Part 3.0). Also in the unique and sensitive areas section; the comment regarding the "7 acres over Sonoyta Hill would change from NPS lands to USBP infrastructure" is incorrect. As was mentioned in the opening comments, the work and results of work will be articulated in a special use permit once all elements of NEPA are satisfied and will remain NPS lands. Noise; the clatter/chafing between double layer panels will become quite pronounced especially with windy and alternatives need to be developed to correct this. Aesthetics; Disagree that no significant impacts would occur and minimizing trash is expected to outweigh adverse impact.

Page 3-2, part 3.2 Soils: We recommend that the engineering plans consider the salinity of the soils in a proportion of the construction zone. Due to the proximity of the area to the Rio Sonoyta, these soils contain a high concentration of sodium, which can corrode concrete. Salinity is indicated by the presence of saltbush species *Atriplex polycarpa* and *A. linearis*, both salt-tolerant species.

Page 3.3.1. Vegetation Communities: Please correct the FEA statements about vegetation. The vegetation within the project corridor is a subset of the vegetation described in the 2003 NPS final EA for the vehicle barrier. *Atriplex polycarpa*, *A. linearis*, *Larrea divaricata* ssp. *tridentata* are the dominant species on the bottoms and dissected hills. This vegetation type is uncommon on OPCNM, occurring less than 2-3 miles of the international boundary. This vegetation type is bearing the brunt of environmental impacts due to border-related activities on OPCNM.

Dominant species in the xeroriparian corridors in the proposed project area include *Prosopis velutina*, *Olneya tesota*, *Parkinsonia floridum*, *Condalia globosa*, *Ambrosia ambrosioides*, and various *Lycium* species. On Monument Hill (Sonoyta Hill), dominant plant species include *Parkinsonia floridum*, *Olneya tesota*, *Prosopis velutina*, *Stenocereus thurberi*, *Carnegiea gigantea*, *Fouquieria splendens*, *Larrea divaricata*, *Lycium* species, and *Ambrosia deltoidea*.

Page 3-2, Part 3.3.2. Wildlife: OPCNM considers the cactus ferruginous pygmy owl (*Glaucidium brasilianum cactorum*) to be a species of management concern. Suitable habitat occurs in the proposed project area and should be addressed in this final EA.

Page 3-3, part 3.3.3. Non-native and Invasive Species: Rather than identify the most common species on OPCNM, the FEA should identify the invasive species in the proposed project area. For example, *Mesembryanthemum* does not occur in the project area, but *Cynodon dactylon* does.

Page 3-5, part 3.6 Protected Species: This section does not address sensitive species that require special management attention but are not protected by the Endangered Species Act. A small population of *Peniocereus striatus*, which is known from a few locations in the U.S., is located in the proposed project corridor. We recommend avoiding the disturbance of any plants in the Roosevelt Reservation. If avoidance is not possible, then salvage should be overseen by OPCNM.

The cactus ferruginous pygmy owl (*Glaucidium brasilianum cactorum*) is another species that is specially managed by OPCNM. Potential habitat occurs in the construction zone, and the breeding period overlaps with the proposed construction period. Surveys should be performed and the impacts to this species should be evaluated.

Page 3-7, part 3.6.1.2. Lesser long-nosed bat: Sonora barrel cactus and California barrel cactus are not columnar cacti and are not used as a food resource by bats. Do not include them in the count of columnar cacti.

Page 3-8, Figure 3-1 Map of Sonoran pronghorn range: Please cite the information source used to prepare this map. OPCNM does not agree with the stated range boundaries.

Page 3-9, part 3.6.1.3 Acuña Cactus: Seven (not five) populations of acuña cactus are known; the Pima County 2001 reference is outdated. This subspecies is not known to occur on limestone; please remove the reference.

Page 3-12, part 3.9 Water Resources: Although they are not perennial streams, it is likely that the larger drainages in the proposed project area are regulated by Section 404 of the Clean Water Act. Please indicate if the drainages in the project area have been evaluated to determine if they are jurisdictional waters. Clarify the criteria used to determine the 16 intermittent streams and also identify locations. There are easily additionally another 24 streams that should also be evaluated. Please clarify where the water for the project (**1.7 million gallons-3.7 million gallons** /referenced on page 4.1) will come from. There is discussion regarding groundwater recharge rates and mention hauling water from Ajo or Why. If this is not the case and water is purchased locally from the property owner at Lukeville, the drawdown on this well needs to be monitored daily while in production. In addition we are requesting that both domestic wells that serve our infrastructure 4 miles due north near our Visitor Center also be monitored for drawdown. There is immense concern for extensive water and the possibility of effects on our two wells.

Page 3-13, last sentence: The correct spelling of Tibbets is Tibbitts.

Page 4-1, part 4.0 Environmental Consequences: Disagree with the comment that this "EA describes the potential permanent impacts". How can this be possible when it's also stated that the design/build process will be utilized? How can the potential for impact are assessed if you don't know the design not only of the fence but how and where it will be constructed. In most cases from my experience it's difficult to evaluate impact of a project without final design incorporated in the EA process.

Page 4-2, part 4.1.2 Alternative 2, second paragraph: It is predictable that the proposed fence will cause indirect impacts. If the fence performs as expected and USBP agents are deployed to areas without the pedestrian fence, then OPCNM predicts that additional enforcement-related off-road driving will occur in those areas. These environmental impacts should be included in this document. The change from NPS lands to USBP infrastructure and enforcement operations was discussed previously. Support the statement that a Special Use permit would need to be obtained from NPS for this action of using the additional 7 acres outside the Roosevelt Reservation prior to construction.

Page 4-3, part 4.2.2. Alternative 2, first paragraph: OPCNM believes the proposed action would have widespread, long-term and significant impacts on soils, with special emphasis on the Holocene, sandy loam alluviums of the valley bottoms. Ground disturbing activities that cause soil structure loss and deflation (e.g. disturbance, compaction, blading) usually trigger accelerated erosion that can not be treated with infrastructure, including best management practices. Gilman and Antho Series soils are the two soil types most prone to accelerated erosion on OPCNM. A significant portion of the proposed action occurs on these soils.

Once accelerated erosion is triggered, the resulting watershed instability will cause deep gullying on Gilman and Antho soils and will have far-reaching implications in the affected watersheds. These impacts need to be considered in the FEA and in the project design. Fence design will be a critical part of minimizing impacts on soils. Since most of the impacts will occur on OPCNM, the NPS should be closely involved with the SWPPP.

Page 4-4, part 4.3.1.2 Alternative 2: As previously mentioned, the saltbush vegetation association is uncommon on OPCNM and is regionally threatened. A significant portion of the project is in this vegetation type.

Page 4-5, part 4.3.2.2, first paragraph: Here and elsewhere, please correct the statement that most of the project corridor has been previously disturbed. Most of the Roosevelt Reserve over Monument Hill has not been disturbed, and about half of the Roosevelt Reserve in the remaining section has not been disturbed.

Page 4-5, part 4.3.2.2, third paragraph: Please provide citations for the sentence beginning, "Habitat fragmentation typically affects....". OPCNM continues to disagree with the statement that the fence will have no significant adverse effects on wildlife.

Page 4-6, part 4.3.3.2: The project corridor, particularly Monument Hill, will not be regularly patrolled by a person qualified to identify and respond to non-native, invasive species. Will qualified USBP monitors be monitoring the construction zone in perpetuity? Also, please provide citations that document the statement that "many invasive plant propagules are transported into the U.S. on clothing of IAs." We are aware of no such studies.

Page 4-7, part 4.4.2, first paragraph: This paragraph has several conflicting statements regarding access that should be corrected. A special use permit from NPS would not be needed if only the Roosevelt Reservation was used during construction.

Page 4-7, part 4.4.2, paragraph 2: We disagree with the statement that the impacts of the proposed project are outweighed by the impacts of illegal activity. We believe the permanent direct impacts and the long-lasting indirect impacts of the pedestrian fence will be far greater than the relatively impermanent impact of illegal border activities.

Page 4-8, part 4.5.2, paragraph 1: We agree that noise due to construction of the fence would be temporary. We are more concerned with constant noise/clatter from the double mesh segments on the panels especially with natural wind action. The EA needs to include an evaluation of how the fence and the access road over Monument Hill will adversely, permanently and significantly affect the viewshed, particularly from the wilderness. Again there is no comparison with the impacts to the view shed between the vehicle barrier and this pedestrian fence especially with size and scale.

Page 4-9, part 4.6.2, paragraph 2: As previously mentioned, please cite the information source used to create the Sonoran pronghorn range map. We do not agree with the boundaries as provided. Section 7 consultation needs to be initiated!

Page 4-11, part 4.7.2, and paragraph 1: We believe the environmental design measures to avoid adverse impacts to these significant historic boundary monuments are not sufficient to ensure that no adverse impacts will occur. The fence will exclude the monuments from NPS protection.

Also, please include the letter indicating SHPO concurrence with USBP's determination of "no affect to historic properties". It is not currently included in Appendix C.

OPCNM believes that the quality of the viewshed and the context of the historic border monuments will be adversely affected by the fence. An important feature of the historic border monuments is the view of the vast expanse of land on both sides of the border, a view that provides context for the border monuments. The impact of the fence on these values should be evaluated in this FEA.

Page 4-13, part 4.8.2, first paragraph: Instead of spraying water as a dust palliative, we recommend using a product similar to lignosulfonate. Not only a dust palliative, lignosulfonate will stabilize the road surface and reduce maintenance costs.

Page 4-15, part 4.10.2: Property value reduction is not of concern to the monument.

Page 4-16, part 4.12.2: As previously mentioned, we disagree with the conclusion that the aesthetic impacts would be insignificant. The comparison between trash/litter scatter and this proposed fence is not even close to being comparable. We can get the litter picked up and this impact is removed, not the same with the fence especially over monument hill.

Page 4-17, part 4.13.2: The construction contractor should be required to rinse concrete truck mixers and other equipment out side of the Roosevelt Reservation and the monument lands.

Page 5-2, table 5-1: The table and the ensuing evaluation should include all ongoing USBP, National Guard, and other border-related operations, such as checkpoints, observation towers, scouting sites, off-road vehicle travel, helicopter activities and other actions having environmental impacts that have not been included. One example is the re-opening and continued use of formerly closed roads in wilderness areas.

Page 5-3, Land use: Disagree with the statement that "alteration of 7 acres of land on the OPCNM would not be considered cumulatively significant as the OPCNM encompasses over 330,000 acres". OPCNM legislation or General Management Plan does not identify excess lands within the monument boundaries. If we wanted to parallel your statement to this project then the 65 miles of fence over Sonoyta Hill encompasses a similarly less percentage of the 225 miles of border fence that DHS is proposing to construct! It's not about the acreage lost but about the resources impacted on this small area due to this project. Soils: As previously mentioned, two soil types that are prone to accelerated erosion occur in the proposed project area. The writers may be incorrectly interpreting Natural Resource Conservation Service soil descriptions, which indicate a low erosion potential for these soils. When dirt roads are built on these soils, the high and nearly inescapable potential for erosion is widely known. Increasing the width of the road (and de-vegetated area), increased blading and increased vehicle traffic contribute to significant cumulative impacts. Also please address what will be done with spoils from ditches cut for the concrete footer.

Page 6-1, part 6.1: Please see previous comments about containing concrete rinsate from trucks/equipment.

Page 6-2, part 6.2: We believe that all of the techniques mentioned in this paragraph will be insufficient to reduce or eliminate the accelerated erosion and watershed instability caused by the fence. The accelerated erosion is likely to increase the frequency of road blading and general maintenance. Please provide a long-term plan for addressing this issue.

Page 6-2, paragraph beginning on page 6-2 and extending onto 6-3: The FEA states that a revegetation plan will be implemented by the USBP upon completion of construction activities. If the restoration plan is 'similar to' the one established for the vehicle barrier, it should include pre-construction activities, such as plant salvage. If the USBP implements a revegetation plan after construction is complete, salvage will no longer be an option. When does the USBP plan to consult with the NPS on a restoration plan? Also, who will be monitoring the construction footprint for 3 years after construction?

Page 6-3, part 6.5 Water Resources: Please see earlier comments on the NPS's contribution to the SWPPP.

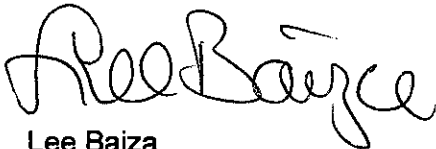
Please explain how the USBP will remove debris during a flood event without posing a safety hazard to the agent. When in flood stage, many washes can not be crossed safely with a vehicle, so vehicle access to flooding drainages will not be possible. Damage to resources will have occurred before debris will be removed.

Please explain where the flood debris will be placed. Normally, the debris would be washed into Mexico, which will no longer be an option.

Page 7-1, Agency Coordination: There is no indication that the Zuni Tribe has been contacted regarding this project. It is a federally recognized tribe having affiliation with OPCNM.

Please contact Lee Baiza (520-387-6489 extension 7500) if you would like to discuss these comments.

Sincerely,



Lee Baiza
Superintendent,
Organ Pipe Cactus National Monument

Cc: Robert Frankeberger, State Historic Preservation Officer
Peter L. Steere, Manager, Cultural Affairs Office, Tohono O'Odham Nation

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

PROJECT:		AJO Final EA	DATE:	December 19, 2007
PROJECT MILESTONE:		Final Environmental Assessment for the Proposed Installation of 5.2 Miles of Primary Fence Near Lukeville Arizona		
Response Legend: A - Concur; D = Do Not Concur; E - Exception; X - Delete Comment				
#	Reviewer	Comment	Response	
1	L. Baiza	OPCNM can not support the inclusion of the proposed 7 acres over Sonoyta Hill outside of the Roosevelt Reservation for construction of a road to access proposed work. This November EA is inadequate as it lacks appropriate alternatives for construction, design of proposed work and mitigation to list a few of the concerns. It is within our mandate to protect these very important resources to this ecosystem and feel that with additional technology being discussed some fencing such as this proposed undertaking would not be necessary. The use of technology, such as the proposed SBInet (Southern Border Initiative network), should be evaluated with fence placement since they could support each other. The technological solution would cause much less long-term impacts to natural and cultural resources on OPCNM than would the proposed pedestrian fence.	D. While SBInet technology is a critical component of the Secure Border Initiative and an effective force multiplier that allows USBP to monitor large areas and deploy agents to where they would be most effective to apprehend cross-border violators, it does not provide a physical deterrent to illegal crossings. The area covered by this project has been determined (and re-confirmed) by USBP to be a high traffic area that requires the installation of a physical barrier (i.e. fence) to control illegal entry into the U.S. The construction of an access road is needed to build and maintain the fence. .	

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
2	L. Baiza	The November 2007 Final EA states that the pedestrian fence would be ineffectual without SBInet and vice versa. Since SBInet and the pedestrian fence form the basis for the border enforcement strategy in the OPCNM area, these actions should be evaluated in one NEPA document and not evaluated separately. We believe the proposed alternatives will have a significant and long-term impact on resources managed by the NPS.	D. The impacts of other possible border security infrastructure (i.e. SBInet) are considered appropriately in the cumulative impacts analysis. If and when, other infrastructure is proposed for this area, appropriate NEPA analyses will be conducted...
3	L. Baiza	The proposed action in the Executive Summary and the Alternatives does not agree. The alternative mentions the requirement of a construction footprint of 150 which is a major attribute of this project and should be in the summary if that is the intent.	A. The executive summary has been revised to read, "Construction activities would remain within the 60-foot Roosevelt Reservation with the exception of the western most 0.65 miles. The western most 0.65 miles, which would be built over Sonoyta Hill, requires a construction footprint of 150 feet."

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
4	L. Baiza	In our comments on the October 2007 draft EA, we asked that the design allows for continued maintenance of the existing vehicle barrier. The request does not appear to be addressed in the FEA therefore that responsibility will be shifted to U.S. Department of Homeland Security since there will be no immediate and safe access for our staff. NPS will continue to maintain the permanent vehicle barrier in areas outside of the pedestrian fence.	A. Due to the existing PVBs location relative to the border and its design characteristics, it is not possible to physically retrofit the existing PVBs as originally desired. Therefore, the pedestrian fence will be installed approximately 3 ft north of the existing PVBs. CBP agrees that the original vehicle barrier will become the operation and maintenance responsibility of CBP.
5	L. Baiza	The FEA repeatedly references the 2003 NPS FEA for the vehicle barrier. Although the 2003 EA is a convenient reference, it should not be used to describe the affected environment of the area that will be impacted by the proposed project. The pedestrian fence is proposed for only 5.2 miles, while the 2003 NPS FEA addresses impacts for a barrier more than 20 miles long and the construction differs immensely from a post and rail system to solid 10x15 foot panels.	D. The FEA correctly references the 2003 NPS document and complies with NEPA and CEQ recommendations to use this document for baseline information. The type and nature of construction and the equipment needed to complete the proposed activities are not considerably different from what was proposed to construct vehicle barriers.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
6	L. Baiza	References to resources at Quitobaquito are made throughout the document. Most of these should be removed, as the proposed project would not affect resources there and this site is remotely located from subject work area.	D. U.S. Fish and Wildlife Service specifically requested we discuss Quitobaquito, and how the project could impact the springs and its associated fauna.
7	L. Baiza	Page FONSI-5, Biological Resource: The revegetation plan that is mentioned to be completed after the construction activities should be reviewed and in place prior to the construction work. Additionally many elements missing such as what is being planned for all columnar cacti larger than 6 feet!	A. The revegetation plan will be comprehensive, completed in conjunction with input from the OPCNM and will be completed prior to the start of construction..

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
8	L. Baiza	Page FONSI-5, Cultural Resources: We wish to clarify that the professional archeological monitors will be provided by the U.S. Border Patrol (USBP). Also, please identify the three historic objects that lie within the proposed construction corridor that will be monitored.	A. The professional archeologist will be provided by the USBP. The historic objects to be monitored are discussed in the EA and consist of the three International Border Monuments (166, 167, 168) located in the project corridor.
9	L. Baiza	Page FONSI-5, Cultural Resources: Due to the amount of ground-clearing and digging involved with this project, we recommend that a professional archeological monitor be present for the entire extent of the project.	D. The entire project corridor has not only been surveyed by the NPS but also by Northland Research Inc. and GSRC. No cultural sites were identified within the project corridor during the original NPS surveys or the recent surveys completed by CBP's consultants. Therefore, CBP feels that professional archeological monitors are not needed for the entire project. However, in keeping with BMPs used by CBP across all projects, construction workers will be trained to recognize potential archeological resources and instructed to temporarily suspend construction activities until a qualified archeologist can evaluate the situation should a potential resource be encountered.

***DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR***

Review Comments Matrix

#	Reviewer	Comment	Response
10	L. Baiza	Page FONSI-5, Water Resources: If the Storm Water Pollution Protection Plan (SWPPP) requires a restoration plan, we request the opportunity to review and approve it.	D. The NPS will be provided an opportunity to review and comment on the SWPPP. The SWPPP will be completed by the Corps' contractor and will be reviewed/approved by CBP then submitted to the EPA/ADEQ.
11	L. Baiza	Page 1-3, part 1.2.3. Background: Please correct the statement that all of the construction activities for the PVB along OPCNM's southern boundary occurred within OPCNM. Most of the construction activities occurred within the 60-ft Roosevelt Reservation.	A. The EA will be revised to state that the PVB's were constructed in the 60-foot Roosevelt Reservation.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
12	L. Baiza	Page 2-3, part 2.3.1. Technology: The FEA justifies the need for a fence in the Lukeville area by stating that physical barriers are the most effective at preventing illegal border crossings in the more populated areas of the Tucson sector. This rationale is unsupported in the Lukeville/Sonoyta area, where many of the more intensively used illegal border crossing areas along the southern boundary of OPCNM are in the more unpopulated areas.	D. The USBP has determined that the Lukeville/Sonoyta area is an area where fence is necessary to secure the border relative to illegal crossings.
13	L. Baiza	Page 2-4, part 2.5 Summary: Table one states that the technological solution will not deter illegal pedestrian traffic, yet the USBP will be relying on this method to deter pedestrian traffic outside the pedestrian fence. Please explain.	D. Table 2-1 does not mention technology but rather discusses the No Action Alternative and the Proposed Action Alternative. Regardless, due to Federal legislation and through analysis of changing border security environment, the USBP has determined that the proposed project corridor is best suited for physical tactical infrastructure and not technology based infrastructure. Further, the lack of use of technology infrastructure versus physical infrastructure is adequately explained in Section 2.3.1 of the Final EA.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
14	L. Baiza	Pages 2-5 and 2-6, Table 2-2 Summary Matrix: Please see our comments on these items in the Affected Environment Section (Part 3.0). (1) Also in the unique and sensitive areas section; the comment regarding the “7 acres over Sonoyta Hill would change from NPS lands to USBP infrastructure” is incorrect. As was mentioned in the opening comments, the work and results of work will be articulated in a special use permit once all elements of NEPA are satisfied and will remain NPS lands. (2) Noise; the clatter/chafing between double layer panels will become quite pronounced especially with windy and alternatives need to be developed to correct this. (3) Aesthetics; Disagree that no significant impacts would occur and minimizing trash is expected to outweigh adverse impact.	(1) A. NPS would retain ownership of the 7 acres over Sonoyta Hill. CBP would assume responsibility for the maintenance of the access road. The EA will be revised accordingly. (2) D. The fence would be designed so that clattering/chaffing is not an issue. As was previously discussed with the contractor, USACE, CBP, and Mr. Lee Baiza of the OPCNM, the fence would be welded together to prevent and minimize any potential noise impacts due to the two panels clattering or chaffing. (3) D. It is CBP’s determination that no significant impacts to aesthetics would occur. The area is currently heavily degraded as depicted in the Photographs 3-1 and 3-2 of the Final EA. Additionally, the primary pedestrian fence would be built out of non-reflective materials in an effort to minimize aesthetic impacts.
15	L. Baiza	Page 3-2, part 3.2 Soils: We recommend that the engineering plans consider the salinity of the soils in a proportion of the construction zone. Due to the proximity of the area to the Rio Sonoyta, these soils contain a high concentration of sodium, which can corrode concrete. Salinity is indicated by the presence of saltbush species <i>Atriplex polycarpa</i> and <i>A. linearis</i> , both salt-tolerant species.	A. The design of the fence has taken into account what is necessary to ensure that the fence is stable, strong, and built for longevity. Additionally, according to the NRCS’s Web Soil Survey all of the soils in the project have a “low” rating in regards to corrosion of concrete.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
16	L. Baiza	<p>Page 3.3.1. Vegetation Communities: Please correct the FEA statements about vegetation. The vegetation within the project corridor is a subset of the vegetation described in the 2003 NPS final EA for the vehicle barrier. <i>Atriplex polycarpa</i>, <i>A. linearis</i>, <i>Larrea divaricata</i> ssp. <i>tridentata</i> are the dominant species on the bottoms and dissected hills. This vegetation type is uncommon on OPCNM, occurring less than 2-3 miles of the international boundary. This vegetation type is bearing the brunt of environmental impacts due to border-related activities on OPCNM.</p> <p>Dominant species in the xeroriparian corridors in the proposed project area include <i>Prosopis velutina</i>, <i>Olneya tesota</i>, <i>Parkinsonia floridum</i>, <i>Condalia globosa</i>, <i>Ambrosia ambrosioides</i>, and various <i>Lycium</i> species. On Monument Hill (Sonoyta Hill), dominant plant species include <i>Parkinsonia floridum</i>, <i>Olneya tesota</i>, <i>Prosopis velutina</i>, <i>Stenocereus thurberi</i>, <i>Carnegiea gigantea</i>, <i>Fouquieria splendens</i>, <i>Larrea divaricata</i>, <i>Lycium</i> species, and <i>Ambrosia deltoidea</i>.</p>	<p>A. The document was revised to stipulate that saltbush (<i>Atriplex</i> sp.) is common throughout most the project corridor, especially east of the POE. Most of the other species mentioned in the comment were included in Section 3.3.1 of the Final EA and incorporated by reference from the 2003 NPS EA.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
17	L. Baiza	Page 3-2, Part 3.3.2. Wildlife: OPCNM considers the cactus ferruginous pygmy owl (<i>Glaucidium brasilianum cactorum</i>) to be a species of management concern. Suitable habitat occurs in the proposed project area and should be addressed in this final EA.	A. Information regarding the cactus ferruginous-pygmy owl has been incorporated into the document. The document now reads in Section 4.6.2, "Additionally, the cactus ferruginous-pygmy owl has the potential to exist in the project corridor. However, the habitat in the project corridor is extremely limited and classified as ranging from poor to moderate with the exception of the western slope of Sonoyta Hill (NPS 2003). Therefore, due to the previously disturbed nature of some of the project corridor in conjunction with the limited quality habitat available, the Proposed Action Alternative is not expected to create significant impacts to the owl."
18	L. Baiza	Page 3-3, part 3.3.3. Non-native and Invasive Species: Rather than identify the most common species on OPCNM, the FEA should identify the invasive species in the proposed project area. For example, <i>Mesembryanthemum</i> does not occur in the project area, but <i>Cynodon dactylon</i> does.	A. The document has been revised to state, ".....More specifically, the common non-native plant located in the project corridor is Bermuda grass (<i>Cynodon dactylon</i>) (Baiza 2007)."

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
19	L. Baiza	<p>Page 3-5, part 3.6 Protected Species: This section does not address sensitive species that require special management attention but are not protected by the Endangered Species Act. A small population of <i>Peniocereus striatus</i>, which is known from a few locations in the U.S., is located in the proposed project corridor. We recommend avoiding the disturbance of any plants in the Roosevelt Reservation. If avoidance is not possible, then salvage should be overseen by OPCNM.</p> <p>The cactus ferruginous pygmy owl (<i>Glaucidium brasilianum cactorum</i>) is another species that is specially managed by OPCNM. Potential habitat occurs in the construction zone, and the breeding period overlaps with the proposed construction period. Surveys should be performed and the impacts to this species should be evaluated.</p>	<p>D. All vegetation will be removed from within the Roosevelt Reservation. However, as part of the revegetation plan, CBP would allow for salvage by NPS of <i>Peniocereus striatus</i> within the project corridor as was done for the implementation of the NPS Vehicle Barrier project.</p> <p>D. See response to comment number 17. In addition, protocol surveys cannot be performed within the timeframe necessary. Furthermore, CFPO have not been reported by USFWS or NPS staff from this area.</p>
20	L. Baiza	<p>Page 3-7, part 3.6.1.2. Lesser long-nosed bat: Sonora barrel cactus and California barrel cactus are not columnar cacti and are not used as a food resource by bats. Do not include them in the count of columnar cacti.</p>	<p>E. Columnar cacti is a term used to describe the shape of the cacti. Regardless, the Sonora barrel cactus and California barrel cactus have been removed from the document.</p>

***DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR***

Review Comments Matrix

#	Reviewer	Comment	Response
21	L. Baiza	Page 3-8, Figure 3-1 Map of Sonoran pronghorn range: Please cite the information source used to prepare this map. OPCNM does not agree with the stated range boundaries.	D. The map is accurately sourced in the Final EA.
22	L. Baiza	Page 3-9, part 3.6.1.3 Acuña Cactus: Seven (not five) populations of acuña cactus are known; the Pima County 2001 reference is outdated. This subspecies is not known to occur on limestone; please remove the reference.	A. The document was revised as suggested.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
23	L. Baiza	Page 3-12, part 3.9 Water Resources: Although they are not perennial streams, it is likely that the larger drainages in the proposed project area are regulated by Section 404 of the Clean Water Act. (1) Please indicate if the drainages in the project area have been evaluated to determine if they are jurisdictional waters. Clarify the criteria used to determine the 16 intermittent streams and also identify locations. (2) There are easily additionally another 24 streams that should also be evaluated. (3) Please clarify where the water for the project (1.7 million gallons-3.7 million gallons /referenced on page 4.1) will come from. There is discussion regarding groundwater recharge rates and mention hauling water from Ajo or Why. If this is not the case and water is purchased locally from the property owner at Lukeville, the drawdown on this well needs to be monitored daily while in production. In addition we are requesting that both domestic wells that serve our infrastructure 4 miles due north near our Visitor Center also be monitored for drawdown. There is immense concern for extensive water and the possibility of effects on our two wells.	<p>(1) A. CBP has assumed that the 16 streams which cross the project corridor are considered jurisdictional although no formal verification has occurred. Additionally, as stated in Section 4.9.2 of the Final EA, "All appropriate CWA Section 404 Permits from the U.S. Army Corps of Engineers (USACE) Los Angeles District Regulatory Branch, as well as Section 401 Water Quality Certifications from the Arizona Department of Environmental Quality, would be obtained prior to any fill material being placed in potential jurisdictional waters of the U.S."</p> <p>(2) D. CBP respectfully disagrees based on biological field surveys.</p> <p>(3) E. The specific source of water is not yet known. However, as indicated in Section 4.9.2 of the Final EA the water will be obtained from municipal sources located in either Why, Ajo, or Gila Bend, Arizona. No monitoring of wells on the OPCNM would occur because no impacts to OPCNM groundwater sources would occur as a result of the Proposed Action.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
24	L. Baiza	Page 3-13, last sentence: The correct spelling of Tibbets is Tibbitts.	A. The document was revised as requested.
25	L. Baiza	Page 4-1, part 4.0 Environmental Consequences: Disagree with the comment that this "EA describes the potential permanent impacts". How can this be possible when it's also stated that the design/build process will be utilized? How can the potential for impact are assessed if you don't know the design not only of the fence but how and where it will be constructed. In most cases from my experience it's difficult to evaluate impact of a project without final design incorporated in the EA process.	D. The EA does address potential impacts on a worse case scenario. The conceptual design footprint was developed by the design engineers and they believe this will be the maximum footprint needed to accomplish the proposed project. All other impacts would remain within the 60 foot Roosevelt Reservation.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
26	L. Baiza	Page 4-2, part 4.1.2 Alternative 2, second paragraph: (1) It is predictable that the proposed fence will cause indirect impacts. If the fence performs as expected and USBP agents are deployed to areas without the pedestrian fence, then OPCNM predicts that additional enforcement-related off-road driving will occur in those areas. These environmental impacts should be included in this document. (2) The change from NPS lands to USBP infrastructure and enforcement operations was discussed previously. Support the statement that a Special Use permit would need to be obtained from NPS for this action of using the additional 7 acres outside the Roosevelt Reservation prior to construction.	(1) D. CBP disagrees with the assertion that increased off-road activities would occur as a result of agents being able to be deployed to areas without pedestrian fence. In reality, the agents working east and west of the fence boundaries will act as a deterrent and this deployment would be expected to curtail illegal traffic in those areas lacking fence. Also, as stated numerous times throughout the document, the illegal activities of cross-border violators are solely up to them and outside of the control of USBP/CBP. (2) A. CBP would seek a special use permit from NPS to construct the fence and road outside the Roosevelt Reservation..
27	L. Baiza	Page 4-3, part 4.2.2. Alternative 2, first paragraph: OPCNM believes the proposed action would have widespread, long-term and significant impacts on soils, with special emphasis on the Holocene, sandy loam alluviums of the valley bottoms. Ground disturbing activities that cause soil structure loss and deflation (e.g. disturbance, compaction, blading) usually trigger accelerated erosion that can not be treated with infrastructure, including best management practices. Gilman and Antho Series soils are the two soil types most prone to accelerated erosion on OPCNM. A significant portion of the proposed action occurs on these soils. Once	D. CBP will coordinate the SWPPP and the revegetation plan with OPCNM. The contractor would have to consider soil conditions and construct the fence/road accordingly. USBP would be responsible for post-construction maintenance, including erosion control and would work closely with NPS to ensure erosion is controlled.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
		accelerated erosion is triggered, the resulting watershed instability will cause deep gullying on Gilman and Antho soils and will have far-reaching implications in the affected watersheds. These impacts need to be considered in the FEA and in the project design. Fence design will be a critical part of minimizing impacts on soils. Since most of the impacts will occur on OPCNM, the NPS should be closely involved with the SWPPP.	
28	L. Baiza	Page 4-4, part 4.3.1.2 Alternative 2: As previously mentioned, the saltbush vegetation association is uncommon on OPCNM and is regionally threatened. A significant portion of the project is in this vegetation type.	D. Saltbush vegetation associations are common not only on the OPCNM but also the Cabeza Prieta National Wildlife Refuge, Tohono O'odham Nation, and the rest of southern Arizona. No significant impacts would occur to this vegetation association with the implementation of this project.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
29	L. Baiza	Page 4-5, part 4.3.2.2, first paragraph: Here and elsewhere, please correct the statement that most of the project corridor has been previously disturbed. Most of the Roosevelt Reserve over Monument Hill has not been disturbed, and about half of the Roosevelt Reserve in the remaining section has not been disturbed.	A. The document has been revised to read: "Although approximately 45 acres would be permanently impacted from the Proposed Action Alternative, these impacts would be considered negligible, since much of the project corridor (17 acres) has been previously disturbed, and the remainder has limited and somewhat disturbed vegetation."
30	L. Baiza	Page 4-5, part 4.3.2.2, third paragraph: Please provide citations for the sentence beginning, "Habitat fragmentation typically affects....". OPCNM continues to disagree with the statement that the fence will have no significant adverse effects on wildlife.	A. The document has been revised to include the following citation, Gilpin, M.E. and Hanski, I. Metapopulation Dynamics: Empirical and Theoretical Investigations. London: Linnaean Society of London and Academic Press; 1991. Additionally, the development and residences on the Mexico side of the project corridor currently fragment habitat. Therefore, the addition of the proposed fence would not likely create significant impacts.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
31	L. Baiza	Page 4-6, part 4.3.3.2: The project corridor, particularly Monument Hill, will not be regularly patrolled by a person qualified to identify and respond to non-native, invasive species. Will qualified USBP monitors be monitoring the construction zone in perpetuity? Also, please provide citations that document the statement that “many invasive plant propagules are transported into the U.S. on clothing of IAs.” We are aware of no such studies.	<p>D. CBP is willing to hire a qualified person/firm to monitor/survey for invasive species for a period of 3-yrs following completion of the construction activities.</p> <p>A. This citation, “(INS 2002)” has been added to the document. In the references section of the Final EA this reference as been added, “INS, U.S. Border Patrol, U.S. Department of Interior, U.S. Forest Service, U.S. Environmental Protection Agency. 2002. Report to the House of Representatives Committee on Appropriations on Impact Caused by Undocumented Aliens Crossing Federal Lands in Southeast Arizona.”</p>
32	L. Baiza	Page 4.7, part 4.4.2, first paragraph: This paragraph has several conflicting statements regarding access that should be corrected. A special use permit from NPS would not be needed if only the Roosevelt Reservation was used during construction.	<p>A. The document was revised to read, “A special use permit from NPS would be needed to access any areas outside of the Roosevelt Reservation. This would be obtained prior to construction activities.”</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
33	L. Baiza	Page 4-7, part 4.4.2, paragraph 2: We disagree with the statement that the impacts of the proposed project are outweighed by the impacts of illegal activity. We believe the permanent direct impacts and the long-lasting indirect impacts of the pedestrian fence will be far greater than the relatively impermanent impact of illegal border activities.	D. See Section 4.4.2 of the Final EA for the full analysis of potential impacts to Unique and Sensitive Areas as a result of the Proposed Action Alternative. In addition, OPCNM has stated (and cited in the Section 4.1.2 of the Final EA) that certain areas of OPCNM have been closed to visitors due to illegal traffic, which affects not only aesthetic qualities and natural resources of the OPCNM, but also the function of the OPCNM.
34	L. Baiza	Page 4-8, part 4.5.2, paragraph 1: We agree that noise due to construction of the fence would be temporary. (1) We are more concerned with constant noise/clatter from the double mesh segments on the panels especially with natural wind action. (2) The EA needs to include an evaluation of how the fence and the access road over Monument Hill will adversely, permanently and significantly affect the viewshed, particularly from the wilderness. Again there is no comparison with the impacts to the view shed between the vehicle barrier and this pedestrian fence especially with size and scale.	(1) A. See response to comment number 14, part 2 (2) A. In Section 4.5.2 of the Final EA it is stated that adverse impacts would occur to Wilderness due to viewshed impacts. However, the Final EA has been revised to provide exhibits that illustrate how the fence will look from the wilderness area.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
35	L. Baiza	Page 4-9, part 4.6.2, paragraph 2: As previously mentioned, please cite the information source used to create the Sonoran pronghorn range map. We do not agree with the boundaries as provided. Section 7 consultation needs to be initiated!	E. See response to comment number 21. Additionally, as can be seen in the Final EA, Appendix C, first page, consultation with the USFWS has been initiated and will continue to occur.
36	L. Baiza	<p>Page 4-11, part 4.7.2, and paragraph 1: We believe the environmental design measures to avoid adverse impacts to these significant historic boundary monuments are not sufficient to ensure that no adverse impacts will occur. The fence will exclude the monuments from NPS protection.</p> <p>Also, please include the letter indicating SHPO concurrence with USBP's determination of "no affect to historic properties". It is not currently included in Appendix C.</p> <p>OPCNM believes that the quality of the viewshed and the context of the historic border monuments will be adversely affected by the fence. An important feature of the historic border monuments is the view of the vast expanse of land on both sides of the border, a view that provides context for the border</p>	<p>D. The monuments will remain accessible via man gates to be installed per the CBP/ USBWC MOA and RFP.</p> <p>D. See the Final EA, on page 121 and 122 of Appendix C. The letter is dated June 8, 2007.</p> <p>D. The fence would be designed so as not to impede the function, value, or stability of the border monuments. Further, as discussed in the Final EA, the Arizona SHPO has concurred with CBP's determination that no historic properties would be impacted by the proposed action.</p>

***DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR***

Review Comments Matrix

#	Reviewer	Comment	Response
		monuments. The impact of the fence on these values should be evaluated in this FEA.	
37	L. Baiza	Page 4-13, part 4.8.2, first paragraph: Instead of spraying water as a dust palliative, we recommend using a product similar to lignosulfonate. Not only a dust palliative, lignosulfonate will stabilize the road surface and reduce maintenance costs.	A. Water would be used during construction for dust suppression and compaction. Soil stabilizers, such as lignonsulfate, will be applied after construction is complete to provide a more stable driving surface.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
38	L. Baiza	Page 4-15, part 4.10.2: Property value reduction is not of concern to the monument.	A. Noted.
39	L. Baiza	Page 4-16, part 4.12.2: As previously mentioned, we disagree with the conclusion that the aesthetic impacts would be insignificant. The comparison between trash/litter scatter and this proposed fence is not even close to being comparable. We can get the litter picked up and this impact is removed, not the same with the fence especially over monument hill.	D. See response to comment number 14, part 3.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
40	L. Baiza	Page 4-17, part 4.13.2: The construction contractor should be required to rinse concrete truck mixers and other equipment out side of the Roosevelt Reservation and the monument lands.	A. The document was revised in Section 6.5 to read, "Additionally, all concrete trucks will be washed outside of the project corridor as well as OPCNM lands."
41	L. Baiza	Page 5-2, table 5-1: The table and the ensuing evaluation should include all ongoing USBP, National Guard, and other border-related operations, such as checkpoints, observation towers, scouting sites, off-road vehicle travel, helicopter activities and other actions having environmental impacts that have not been included. One example is the re-opening and continued use of formerly closed roads in wilderness areas.	D. The past, present, and reasonably foreseeable USBP actions within the region have been included in Table 5-1 and evaluated in the Final EA.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
42	L. Baiza	<p>Page 5-3, Land use: Disagree with the statement that “alteration of 7 acres of land on the OPCNM would not be considered cumulatively significant as the OPCNM encompasses over 330,000 acres”. OPCNM legislation or General Management Plan does not identify excess lands within the monument boundaries. If we wanted to parallel your statement to this project then the 0.65 miles of fence over Sonoyta Hill encompasses a similarly less percentage of the 225 miles of border fence that DHS is proposing to construct! It’s not about the acreage lost but about the resources impacted on this small area due to this project.</p> <p>Soils: As previously mentioned, two soil types that are prone to accelerated erosion occur in the proposed project area. The writers may be incorrectly interpreting Natural Resource Conservation Service soil descriptions, which indicate a low erosion potential for these soils. When dirt roads are built on these soils, the high and nearly inescapable potential for erosion is widely known. Increasing the width of the road (and de-vegetated area), increased blading and increased vehicle traffic contribute to significant cumulative impacts. Also please address what will be done with spoils from ditches cut for the concrete footer.</p>	<p>D. CBP analysis concludes that the use of less than 0.0001 percent of the OPCNM would not constitute a significant impact. The additional 225 miles of fence are identified and their impacts to various resources described in the cumulative impact section.</p> <p>D. According to NRCS’s Web Soil Survey, the soils in the project corridor, in particular, the Antho and Gilman soils have a slight erosion rating. Included is the NRCS’s explanation of what the ratings mean,</p> <p>“The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope and soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.</p> <p>The ratings are both qualitative and numerical. The hazard is described as "slight," "moderate," "severe," or "very severe." A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.”</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
43	L. Baiza	Page 6-1, part 6.1: Please see previous comments about containing concrete rinsate from trucks/equipment.	A. See response to comment number 40.
44	L. Baiza	Page 6-2, part 6.2: We believe that all of the techniques mentioned in this paragraph will be insufficient to reduce or eliminate the accelerated erosion and watershed instability caused by the fence. The accelerated erosion is likely to increase the frequency of road blading and general maintenance. Please provide a long-term plan for addressing this issue.	D. The design of the fence would be such that it does not accelerate erosion or watershed instability. As discussed in response to comment number 42, the soils in the project corridor are considered to have a slight erosion hazard. CBP will continually monitor road and fence conditions and will continually perform required maintenance to repair and mitigate erosion.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
45	L. Baiza	Page 6-2, paragraph beginning on page 6-2 and extending onto 6-3: The FEA states that a revegetation plan will be implemented by the USBP upon completion of construction activities. If the restoration plan is 'similar to' the one established for the vehicle barrier, it should include pre-construction activities, such as plant salvage. If the USBP implements a revegetation plan after construction is complete, salvage will no longer be an option. When does the USBP plan to consult with the NPS on a restoration plan? Also, who will be monitoring the construction footprint for 3 years after construction?	A. See response to comment number 7.
46	L. Baiza	<p>Page 6-3, part 6.5 Water Resources: Please see earlier comments on the NPS's contribution to the SWPPP.</p> <p>Please explain how the USBP will remove debris during a flood event without posing a safety hazard to the agent. When in flood stage, many washes can not be crossed safely with a vehicle, so vehicle access to flooding drainages will not be possible. Damage to resources will have occurred before debris will be removed.</p> <p>Please explain where the flood debris will be placed. Normally, the debris would be washed into Mexico, which will no longer be an option.</p>	<p>A. See response to comment number 10.</p> <p>D. CBP is in the process of establishing a long-term maintenance contract that will maintain the roads and fence. Debris that collects on the fence will be removed on a regular basis. For safety reasons, we cannot commit to the removal of debris during a flood event.</p> <p>E. Any organic debris would be placed in areas that are to be revegetated and used as a potential seed source for natural revegetation. All other debris would be removed from the project corridor and disposed of properly.</p>

***DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR***

Review Comments Matrix

#	Reviewer	Comment	Response
47	L. Baiza	Page 7-1, Agency Coordination: There is no indication that the Zuni Tribe has been contacted regarding this project. It is a federally recognized tribe having affiliation with OPCNM.	E. Consultation was conducted with all tribes that have historically expressed an interest in USBP projects in southern Arizona. The SHPO did not indicate that a tribe was omitted; however, the Zuni will be consulted with accordingly.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

P.O. Box 1306

Albuquerque, New Mexico 87103

In Reply Refer To:

FWS/R2/NWRS-SUPV/033896

DEC 11 2007

Mr. Robert F. Janson
Acting Executive Director
Asset Management
U.S. Customs and Border Protection
Washington, D.C. 20229

Dear Mr. Janson:

Thank you for your letters, dated October 18, 2007, inviting the U.S. Fish and Wildlife Service (Service) to participate as a cooperating agency in development of Supplemental Environmental Assessments (SEA) for proposed construction, maintenance, and operation of tactical infrastructure related to securing various sectors of the U.S./Mexico international border. The Service is committed to continuing a cooperative relationship with U.S. Customs and Border Protection (CBP) to address issues in the vicinity of the border related to security and conservation of natural resources. Towards that goal, we will continue to cooperatively develop best management practices and standard operating procedures with CBP personnel in the various sectors in an effort to minimize environmental impacts associated with border protection.

We appreciate your invitation for the Service to serve as a cooperating agency in completion of National Environmental Policy Act documentation required to assess environmental concerns related to development and operation of border tactical infrastructure. Even though the Service is a Federal agency with land management responsibilities for natural resources that will be affected by the proposed action, we have concluded given the mission of the Service, that it would not be appropriate to assume the role of a cooperating agency in this planning process.

Sincerely,

Regional Director



United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951

Telephone: (602) 242-0210 Fax: (602) 242-2513



In Reply Refer to:

AESO/SE
22410-2008-F-0011

October 19, 2007

Mr. Eric W. Verwers, Director
Construction and Support Office
Department of the Army
Fort Worth District, Corps of Engineers
P.O. Box 17300
Fort Worth, Texas 76102-0300

Dear Mr. Verwers:

Thank you for your correspondence (electronic mail) of October 12, 2007, requesting formal consultation pursuant to section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act). We received your original letter of August 14, 2007, requesting our concurrence that the Installation of 5.2 Miles of Primary Fence near Lukeville, Border Patrol (BP) Tucson Sector Project, Pima County, Arizona (proposed project), may affect, but is not likely to adversely affect, the federally endangered lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*) and will have no effect on the endangered Sonoran pronghorn (*Antilocapra americana sonoriensis*). On October 9, 2007, we held a conference call with Chris Ingram and Josh McEnany of Gulf South Research Corporation, to discuss the project's effects on the Sonoran pronghorn and lesser long-nosed bat. During the call, you revised your determination and concluded that the project may result in adverse effects to both species and that formal section 7 consultation is warranted. This determination was confirmed in your October 12, 2007, electronic mail.

The consultation concerns the possible effects of your proposed project, as described in the "Draft Environmental Assessment for the Proposed Installation of 5.2 Miles of Primary Fence near Lukeville, Arizona, US. Border Patrol (BP) Tucson Sector" (DEA). You have determined that the project may adversely affect the endangered Sonoran pronghorn and the endangered lesser long-nosed bat.

To complete our Biological Opinion (BO) on project effects to the Sonoran pronghorn and lesser long-nosed bat, we request that you provide us with the following information (we will include your response in the "description of the proposed action" in the BO):

- A complete description of project timing (i.e., when project construction will commence; how long construction will take; how often fence and road maintenance will occur and when; etc.).
- A complete description of the fence design and fence maintenance techniques and schedule. We recommend gaps (maximum width possible) be incorporated into the fence design to allow for passage of small and medium-sized animals. According to the Research and Endangered Species Coordinator at Organ Pipe Cactus National Monument (OPNCNM), after significant rainfall events, debris becomes lodged on the OPNCNM permanent vehicle barriers (PVBs) (six inch-wide posts on five-foot centers), which creates a dam that causes water to pool upstream (up to 100+ feet) and laterally (up to 300+ feet) (electronic mail from Tim Tibbits, October 4, 2007). Therefore, it would be helpful to specifically describe how the pedestrian fence will be designed in wash areas to, as stated in the DEA, ensure proper conveyance of floodwaters and to eliminate the potential to cause backwater flooding on either side of the border. Describe how and how often the fence and adjacent road will be maintained. Describe in detail how and how often the fence will be monitored and maintained during rainfall events to ensure it is not impeding proper water conveyance; additionally include who will be responsible for these activities.
- An analysis of how the project (both the fence and associated vegetation clearing) will affect hydrology and erosion in the area and how potential increases in erosion and changes in hydrology will affect resources, such as columnar cacti.
- A statement clarifying if water will be used for fence construction. If it will be used, please describe from where the water will be taken. As we stated in our July 10, 2007, letter regarding this project, we do not recommend any groundwater be extracted from the area for project purposes, as any groundwater pumping could result in degradation or loss of critical habitat and mortality of Quitobaquito pupfish and other wetland species at the Quitobaquito pond.
- A description of the approximate number of saguaros and organ pipe cactus that will be impacted on Sonoyta Hill and those that will be impacted in the other project areas. Based on our October 9, 2007, conversation with Gulf South Research Corporation, most impacts to columnar cacti will occur on Sonoyta Hill. To greatly reduce project impacts to columnar cacti and consequently to the lesser long-nosed bat, we recommend that the fence not be constructed over Sonoyta Hill. If the fence is built over Sonoyta Hill, we recommend that this proposed project footprint be reduced to the greatest extent possible.
- A complete description of project access roads and use of these roads. Page 2-3 of the DEA states that access would include use of the existing patrol road adjacent to the U.S.-Mexico border as well as South Puerto Blanco and the north-south access roads constructed by the National Park Service (NPS). Please clarify the north-south access roads to which you are referring. The only north-south access road of which we are aware is the one located about 0.75 mile west of Lukeville (to the east of Sonoyta Hill) that passes through the old Dowling Ranch area and connects South Puerto Blanco Drive to the border road. This road, however, is an old recovering ranch road, neither constructed nor used by NPS. Though its

construction and use has never undergone section 7 consultation, it is currently used by the BP. If this is the road to which you are referring, please provide us with a description of the road and adjacent area (size of the road, vegetation community through which the road passes, etc.) and describe the proposed use of the road during project-related activities (i.e., how often it will be used by BP or contractors during project construction, if it will be used as an access road to conduct fence maintenance, if it will be used for patrol purposes associated with the proposed project). Because construction and use of the road by BP has not been previously consulted on, this will be included as part of the description of your proposed action in our BO. Additionally, please describe the proposed use of all other access roads associated with this project. Provide an analysis of the effects to Sonoran pronghorn and lesser long-nosed bat from use of these roads. We recommend including in this proposed action a provision that all project-related personnel observe the NPS posted speed limit of 25 miles per hour in OPCNM during all project construction and maintenance-related activities.

- An analysis of possible indirect effects to Sonoran pronghorn and lesser long-nosed bat from potential shifts in illegal traffic and ensuing law enforcement caused by the installation of the fence. It is likely that shifts will occur to the west of the fence because this area is easier to access from Mexico, due to its close proximity to Highway 2, than the area to the east of the eastern end of fence. To minimize potential impacts to Sonoran pronghorn, we recommend that interdiction efforts be focused along the border road, to the west of the fence, to prevent illegal traffic from entering prime Sonoran pronghorn habitat in western OPCNM and eastern Cabeza Prieta National Wildlife Refuge.
- A detailed cactus salvage plan or written agreement among Army Corps of Engineers (ACOE) or BP, FWS, and NPS that a detailed salvage plan will be developed with and approved by the NPS by a date agreed to by NPS. As stated in the DEA, the revegetation plan established by NPS for the construction of the PVBs on OPCNM will be implemented within the project corridor upon completion of construction activities. We recommend that the NPS plan be used as a template for your plan; however, a detailed salvage plan should immediately be developed with (or by – see below) and approved by OPCNM. The plan should address: 1) how (techniques to be used) the columnar cacti will be salvaged, including whether the cacti will be relocated to a temporary holding facility to be stabilized for a year before being re-planting, as OPCNM did; 2) where the cacti will be placed; 3) what the success criteria will be and what actions will be taken should the criteria not be met; and 4) how and how often monitoring will be done. Furthermore, please explain who will be responsible for developing and implementing the final plan. We recommend funding be provided to OPCNM to develop and implement the plan if they are able to do so. If they are not, we recommend that a qualified consultant develop and implement the plan in accordance with OPCNM's guidance.

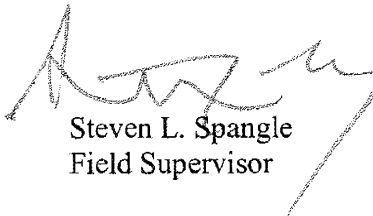
Section 7 allows us up to 90 calendar days to conclude formal consultation with your agency and an additional 45 calendar days to prepare our biological opinion (unless we mutually agree to an extension). The consultation period began on October 12, 2007, the date you requested formal consultation. However, we will not be able to complete our Biological Opinion until we receive the information we requested above. Because you have requested us to expedite this

consultation for the benefit of Homeland Security, we expect to provide you with our draft biological opinion no later than 30 days after receipt of the above-requested information.

We have assigned log number 22410-2008-F-0011 to this consultation. Please refer to that number in future correspondence on this consultation. As a reminder, the Act requires that after initiation of formal consultation, the Federal action agency may not make any irreversible or irretrievable commitment of resources that limits future options. This practice insures agency actions do not preclude the formulation and implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of endangered or threatened species or destroying or adversely modifying their critical habitats.

We encourage you to coordinate the review of this project with the Arizona Game and Fish Department and OPCNM. In keeping with our trust responsibilities to Native American Tribes, by this letter we notify the Tohono O'Odham Nation, which will be interested or affected by this proposed action and encourage you to invite the Nation and the Bureau of Indian Affairs to participate in this review process. Thank you for your continued coordination efforts. If you have questions or concerns about this consultation or the consultation process in general, please contact Erin Fernandez at (520/670-6150 x238) or Jim Rorabaugh at (520/670-6150 x230).

Sincerely,



Steven L. Spangle
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)
(Attn: Brian Millsap)
Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Regional Supervisor, Arizona Game and Fish Department, Yuma, AZ
Regional Supervisor, Arizona Game and Fish Department, Tucson, AZ
Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ
Superintendent, Organ Pipe Cactus National Monument, Ajo, AZ
Refuge Manager, Cabeza Prieta National Wildlife Refuge, Ajo, AZ
Chairperson, Tohono O'Odham Nation, Sells, AZ
Gulf South Research Corporation, Baton Rouge, Louisiana (Attn: Chris Ingram)

W:\Erin Fernandez\Erin Fernandes past docs for fy08\Lukeville Initiation and Comment ltr Oct 12 07.doc:cgg

TOHONO O'ODHAM NATION
NATURAL RESOURCES DEPARTMENT
WILDLIFE AND VEGETATION MANAGEMENT PROGRAM

PO Box 837, Sells, Arizona 85634 Phone: 520.383.1513 Fax: 520.383.3377 e-mail: karen.howe@tonation-nsh.gov



October 15, 2007

Eric W. Verwers, Director (by regular and e- mail)
Engineering and Construction Support Office
Department of the Army
Fort Worth District, Corps of Engineers
P.O. Box 17300
Fort Worth, Texas 76102-0300

Re: Draft Environmental Assessment for the Proposed Installation of 5.2 miles of Primary Fence
Near Lukeville, Arizona, U.S. Border Patrol Tucson Section

Dear Mr. Verwers:

The Wildlife and Vegetation Management Program (WVMP) of the Tohono O'odham Nation (Nation) would like to provide to you our comments on the above referenced project (DEA).

The Nation shares its' western boundary with Organ Pipe Cactus National Monument (OPCNM) which encompasses the project area. Due to this proximity impacts from this project may directly, and indirectly, affect the Nation's biological resources.

As a summary to the entire document the draft Finding of No Significant Impact (FONSI) will provide the basis for most of our comments which are as follows:

1. Page FONSI-2, Alternatives. Only two alternatives are presented for this project. We feel this is inadequate for the stated purpose and need of this project especially in regard to mitigation for permanent impacts to wildlife corridors that a fence would present. Other alternatives could take into account different styles of fence as well as placement of gaps to provide for large wildlife movement.
2. Page FONSI-2, Alternative 2. Stated in this paragraph as well as in many places within the DEA is that "the final design would be developed by the design/build contractor." If this is the case, this document is moot because impacts to the environment cannot be thoroughly assessed and addressed until the final design is known.
3. Page FONSI-2 & -3, Environmental Consequences. The impacts to wildlife movement across the international boundary are characterized as minimal. Are there studies that have been documented/written to support this statement? If so, these need to be referenced.

The generalization of the minimization of indirect adverse affects does not take into account that increased USBP action and the affect of additional agents in these areas will most likely add to the impacts, especially IA apprehensions in undisturbed and wilderness areas on the Nation to the east and the OPCNM and Cabeza Prieta National Wildlife Refuge (CPNWR) to the west. The statement that illegal pedestrian traffic impacts are “unknown, if, when, or where this shift in traffic may occur” is undermined by the assertion that “wildlife would also still be able to migrate across. . .the border either to the east or west of the project footprint terminus” (Section 4.4.2.2, page 4-5). If a determination can be made for migratory adaptability for wildlife then that would hold true for pedestrian traffic as well and so can be a “known” quantity where this assertion is made throughout the DEA. Flow of IA foot traffic will find the areas of least resistance in the surrounding lands.

4. Page FONSI-3, Environmental Design Measures. Within the FONSI and text of the DEA (Sec. 6.0 Environmental Design Measures) there is no mention of preventive measures to prevent initial invasive species establishment, such as hosing down equipment, vehicles, etc. that provide opportunities for invasive species to be brought to the construction corridor.
5. Page FONSI-4, Biological Resources. See comment 4 above.
6. Page FONSI-4, Water Resources. We appreciate the acknowledgement that work conducted during times of heavy rains greatly impacts the Sonoran Desert environment and that work will cease during those times.

As discussed in Section 4.9, pages 4-12, -13, the water source for construction purposes is unknown making it problematic to assess what local impacts may occur if groundwater is utilized. Is the estimation of 5.2 ac-feet usage for construction over the entire span of construction? Is this number based on the amounts discussed in 4.0, page 4-1? What is the time-frame? Also, there is no source cited for the groundwater water recharge and withdrawal rates. Are these numbers an average and if so, over what period of time? This discussion needs to be expanded to account for the determination of no significant impact.

7. Page 3-4, The Tohono O’odham Nation. “The largest of the four areas within TON” shares approximately 70 miles with Mexico and contains significant cultural and biological resources.
8. Page 5-1, 5.0. Cumulative Impacts. As stated, this section discusses how the project affects the region. The WVMP and other Nation programs that oversee and assess impacts to the Nations’ biological and other resources were not consulted as to how the pedestrian fence may affect these resources.

Land Use. While it states that “less than 0.002 percent of OPCNM total acreage” would be impacted, the land usage as utilized as a north-south migratory and forage path will have a significant impact to wildlife by impeding their movement.

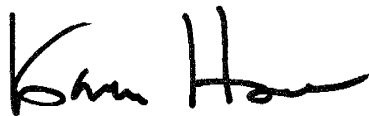
9. Page 5-4, Biological Resources. See Land Use above. Until and when there is discussion about the quality and quantity of resources available to wildlife and plants to provide for their sustainability in the region the contention that over the long-term species and community viability will not be significantly impacted cannot be supported.
10. Page 5-5, Socioeconomics. Possible IA traffic funneled to areas around the pedestrian fence onto the Nation may have some relative, if not significant, cumulative impact to villages on the Nation’s western boundary. If IA foot traffic increases in these areas, there may be a

corresponding increase in public safety issues. The Nation's police and medical services to address these issues would also increase.

11. Page 7-1, Public Involvement. Although a primary stakeholder in the region, the Nation was not consulted and coordinated with in preparation of this document as were other tribes as evidenced in Appendix C. Also noted was the increase of primary fence from 4.2 miles provided to correspondents to 5.2 miles in the current DEA. In order to make accurate assessments for impacts to natural and cultural resources it is important that any changes be provided to interested parties.

Thank you for the opportunity to provide comments to this Draft Environmental Assessment and we look forward to future coordination on this and other projects that may affect the biological resources of the Tohono O'odham Nation. If you have any questions or comments please contact me at 520-383-1513 or karen.howe@tonation-nsn.gov.

Respectfully,



Karen Howe
Ecologist

cc: Ned Norris, Jr., Chairman Tohono O'odham Nation
Isidro Lopez, Vice Chairman, Tohono O'odham Nation
Selso Villegas, Director, Natural Resources Department
Tohono O'odham Legislative Council, Natural Resources Committee
Peter Steere, Manager, Cultural Affairs Program

[electronic signature on file]



INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

October 11, 2007

Eric W. Verwers
Director, Engineering and Construction Support Office
Army Corps of Engineers, Fort Worth District
ATTN: CESWF-PM-EC/McGregor
819 Taylor Street, Room 3A28
Fort Worth, TX 76102

Subject: Draft Environmental Assessment for the Proposed Installation of 5.2 miles of Primary Fence near Lukeville, Arizona, United States Border Patrol, Tucson Sector

Dear Mr. Verwers:

The United States Section, International Boundary and Water Commission (USIBWC) would like to thank you for the opportunity to review the subject document. As indicated in previous correspondence related to Border Patrol fence projects, the USIBWC requests that proposed construction activities be accomplished in a manner that does not change historic surface runoff characteristics at the international border. If the project falls within USIBWC jurisdiction or property, the USIBWC will not approve any construction near the international boundary in the United States that increases, concentrates, or relocates overland drainage flows into either country. This requirement is intended to ensure that developments in one country will not cause damage to lands or resources in the other country as required by the 1970 Treaty. We also request that you ensure that structures constructed along the border are maintained in an adequate manner and that liability issues created by these structures are addressed.

As with previous work by Border Patrol along the international boundary, the USIBWC requires that proposed works and related facilities not affect the permanence of existing boundary monuments and not impede access for their maintenance by USIBWC personnel. Any proposed construction must allow for line-of-sight visibility between each of the boundary monuments. The USIBWC requests that engineering drawings be submitted for review and approval before beginning construction on USIBWC jurisdictional property. The drawings must show the location of each component in relationship to the international boundary and nearby monuments.

In order to avoid any confusion and to allow better coordination, the USIBWC requests that a table be added to the Cumulative Effects Section that lists all the border fence projects, by state, that are being programmed for construction. This is due to the overwhelming amount of projects by the Border Patrol along the international border. For your information, the USIBWC has designated Mr. Richard Peace, Division Engineer, Operations and Maintenance Division as the agency single point of contact for border fence and other border security projects. Any future correspondence should be addressed to Mr. Peace at the letterhead address.

If you have any questions regarding these comments, please contact Mr. Richard Peace, at (915) 832-4158.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. Peña'.

Carlos Peña, Jr., P.E.
Division Engineer
Environmental Management Division

October 9, 2007

William Fickel, Jr.
Chief, Planning, Environmental and Regulatory Division
U.S. Army Corps of Engineers
Fort Worth District, ATTN: CESWF-PM-EC/McGregor
819 Taylor Street, Room 3A28
Fort Worth, Texas 76102-0300

Dear Mr. Fickel, Jr:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona and adjacent to Organ Pipe Cactus National Monument. Organ Pipe Cactus National Monument staff is submitting the following comments:

Finding of No Significant Impact (FONSI):

There are only two alternatives considered in the draft with one being no action and the other being the proposed or possibly the preferred.

We suggest an additional alternative which would include a combination of pedestrian fencing, remote technology, and law enforcement effort. As an example, the proposed pedestrian fence west of Lukeville would extend to the end for the existing National Park Service vehicle barrier (Normandy Barrier) and a remotely operated video camera placed at the top of Sonoyta/Monument Hill to monitor incursions on either side. This combined with increased law enforcement presence, would likely deter illegal activity from and minimize the impact of the proposed project on resources in this area. It would also minimize the enormous impacts to Sonoyta/Monument Hill resources and possibly keep this work in the realm of an Environment Assessment. With the additional portion of new road especially extending possibly 150 feet from the International Boundary and 90 feet beyond the Roosevelt Reservation the nature of this work will cause irreparable damages to resources now and into the future and will probably require a full Environmental Impact Statement.

Another major concern is the proper conveyance of floodwaters through the pedestrian fence. It should be more clearly defined in the EA and FONSI. Specifically, design drawings should be included as to how floodwaters will be conveyed through the pedestrian fence and debris normally accumulating on existing vehicle barrier dealt with.

Utilizing the design – build concept works in many projects and probably will for this one too. The concern again is that the final EA should include alternative and final drawings of approved designs which will allow for a more consistent review.

FONSI-2, Environmental Consequences: The home range of many species of small mammals and reptiles are localized within, could be contained within the project scope, and cross the international boundary. The presence of a pedestrian fence which could prevent small mammals and reptiles from crossing the international boundary could have more than a minimal impact on individuals as they are denied access to important forage and breeding habitat.

FONSI-3, Environmental Consequences: Based on past security measures near POE's, it is likely that the presence of a pedestrian fence on either side of the Lukeville POE will force IA's into more remote areas of the monument. Trash and debris may be reduced on a local scale in the project corridor; however, the regional deposition of trash from IA's will shift to more remote areas of the monument.

Executive Summary

Page iii: The correct citation year for the Organ Pipe Cactus National Monument vehicle barrier EA and FONSI is 2003.

Proposed Action Alternative:

2.2, Proposed Action Alternative: It is anticipated an area greater than the Roosevelt Reservation (60ft.) will be needed to construct an access road, vehicle turn arounds, and staging area for the pedestrian fence over Sonoyta/Monument Hill. The current grade on Monument Hill is greater than 10%. In order to transport equipment to the work site, switchbacks may be required to traverse either side of Sonoyta/Monument Hill and, consequently, require the access road to be partially located outside of the Roosevelt Reservation. This type of disturbance would not support the current Finding of No Significant Impact and requires additional analysis of effects.

2.2, Proposed Action Alternative: It is difficult to evaluate the effects of the preferred alternative on the surrounding resources because no fence design was included in the document. The final draft document should include the current and alternative designs and analyze the impact of this design on the surrounding resources.

2.2, Proposed Action Alternative: Staging areas and turnarounds could likely be located outside of the Roosevelt Reservation when constructing the new primary fence over Sonoyta/Monument Hill.

Affected Environment

3.3.2, Wildlife: Sonoran toad is widespread throughout the desert and breeds in ephemeral pools and could be found within the project area.

Table 3-1, Federally listed and proposed species: Organ Pipe Cactus National Monument supports one known population of acuña cactus, located approximately 8 miles north of the international boundary.

3.6.1.1, Sonoran Pronghorn: Mexico Highway 2 is not adjacent to the project corridor as it joins the boundary at OPCNM approximately 5 miles west of the POE. Additionally, the existing NPS vehicle barrier was designed to allow for pronghorn passage and is not considered an impediment to Sonoran pronghorn movement (NPS 2003).

3.6.1.3 Acuña cactus: There are 6 known populations of acuña cactus in the United States and Sonora, Mexico (Rutman 2007). One population is located on approximately 1,900 acres in Organ Pipe Cactus National Monument (Rutman 2007).

Figure 3-1, Sonoran Pronghorn Range with Project Corridor: This figure should indicate the location of Mexico Highway 2 as it is referenced in the previous paragraph.

3.4, Unique and Environmentally Sensitive Areas: The document adequately describes the unique habitat and vegetation of Organ Pipe Cactus National Monument and its surrounding lands. However, additional information should be included on any unique and environmentally sensitive areas in the project area. These include the rocky hillside communities on Monument Hill and the many xeroriparian communities which cross through the project area. Xeroriparian communities are a critical component of the Sonoran Desert ecosystem.

3.5, No mention made of consideration for protection of Wilderness Values especially since a major portion of the work will take place adjacent to monument wilderness.

3.7, The Tohono O'odham Nation has direct affiliation with Organ Pipe Cactus National Monument. They should also be contacted to comment on cultural landscapes and traditional properties.

3.12, Aesthetics: Please see comment above for 3.6.1.1 in reference to the proximity of Mexico Highway 2 to the project corridor.

3.12, Aesthetics: The items listed, with the exception of the existing PVB, can not be seen from South Puerto Blanco Drive where the view shed and aesthetics would be impacted from construction of the pedestrian fence. Consider utilizing non reflective non galvanized or coated metals in the design of this fence. Material color should match the natural rust patina on the vehicle barrier in place.

Page 3-16, Photograph 3-2: The photograph is from an area west and outside of the project corridor.

Environmental Consequences

4.0, Environmental Consequences: As stated above, it's difficult to evaluate the effects of the preferred alternative on the surrounding resources because no fence design was included in the document. The next draft document should include the current and alternative designs and analyze the impact of this design on the surrounding resources.

4.1.2, Land Use, Alternative 2: Based on past border security actions, it is likely that IAs will move to more remote areas of the monument as a result of the proposed alternative. This could lead to additional traffic and potential adverse indirect impact in areas away from the pedestrian fence.

4.1.2, Land Use, Alternative 2: The EA indicated that 7 acres outside of the Roosevelt Reserve will be impacted from this access. However, an engineered drawing of the proposed route up and over "Sonoyta Hill" should be completed and included in the EA along with an analysis of the amount of land which will be disturbed from this route.

4.2.2, Soils, Alternative 2: The approximate acreage of soils to be impacted by this alternative should also include soils for the access road over "Sonoyta Hill". In the design water diversion and soil retention structures will need to be considered for the cleared area over Sonoyta/Monument Hill.

4.3.2.2, Wildlife, Alternative 2: Please support the statement "...previously disturbed, and the remainder has limited vegetation, which is now considered poor quality habitat." with a citation supporting this statement and description of what wildlife species this would be considered poor habitat.

4.3.2.2, Wildlife, Alternative 2: The statement "...due to tens of thousands of acres of suitable, similar habitat adjacent to the project corridor." is not accurate. OPCNM contains a mosaic of diverse habitat ranging Sonoran desert scrub to temperate mountain communities. Wildlife in OPCNM is diverse and many are found only in localized areas; such as the Acuña cactus, Senita cactus, Sonoyta mud turtle, and desert tortoise. Desert tortoise is present in several areas within the project scope and the fence design should ensure adequate passage for desert tortoise between the United States and Mexico.

4.3.3.2, Non-native and invasive species, Alternative 2: The document states that "With the exception of Sonoyta Hills, this area has been previously disturbed from the construction of the existing PVBS". This is not an accurate statement as the NPS vehicle barrier project scope was 30 ft. from the international border with the exception of 60 ft for staging areas. The scope for this project is 60 ft from the international border.

4.3.3.2, Non-native and invasive species, Alternative 2: Please support the following statement "Disturbances would occur adjacent to existing roads and would not create new dispersal corridors or result in the expansion of non-native or invasive plant species distributions." with a citation. Once introduced and established, invasive species can spread by human and/or animal vector and wind.

4.4.2, Unique and Environmentally Sensitive Areas, Alternative 2: The following two statements contradict each other:

“The construction crew and equipment would access the project corridor along the border road entirely within the Roosevelt Reservation, limiting visual and noise impacts to the OPCNM”.

“However, the use of South Puerto Blanco Road would be required to access the project corridor on the western face of Sonoyta Hill.”

Please clarify this discrepancy.

Page 4-7, 4.4.2, Unique and Environmentally Sensitive Areas, Alternative 2: The first paragraph address aesthetics in several places, however the subheading indicates the topic is “Unique and Environmentally Sensitive Areas”.

4.4.2, Unique and Environmentally Sensitive Areas, Alternative 2: Due to the open terrain which typifies OPCNM, the proposed action would be visible from areas outside of the disturbed area, including Gachado Line Camp, South Puerto Blanco Road, the El Camino Del Dos Republicos.

4.7.2, Cultural Resources, Alternative 2: Proposed Action Alternative: The NPS monitors the condition of its List of Classified Structures (LCS). International Boundary Monument 166, 167, and 168 are on the NPS LCS. The EA should describe how NPS staff will access the sites post construction.

4.9.2, Water Resources, Alternative 2: The National Park Service is concerned about the potential for water to be restricted through washes which the pedestrian barrier will cross. During high water events, debris can build up against any barrier in washes (Photo 1) and change water flow direction and pattern and channel water along the road to an area of less resistance (Photo 2). Any change to water flow direction and pattern will, in turn, change the hydrology of the area on a local and, if large, enough, general scale on both the United States and Mexico side of the international border. The pedestrian fence design should accommodate water flow through the fence without changing hydrologic function of the area.

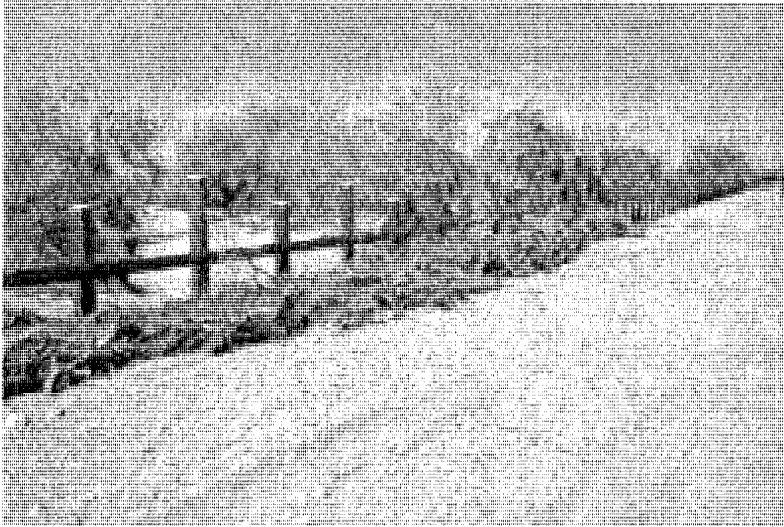


Photo 1: Debris backup against the vehicle barrier during one high water flow event at Vulture Wash, Organ Pipe Cactus National Monument, 2005.



Photo 2: Erosion around a vehicle barrier post during one high water flow event, Organ Pipe Cactus National Monument 2005.

4.12.2, Aesthetics, Alternative 2: The construction of a pedestrian fence over Sonoyta Hill would constitute a long-term adverse impact to the visual quality of this area, which is visible from State Highway 85, Lukeville and South Puerto Blanco Road.

Page 5-2, Table 5-1: There are several discrepancies in the Approximate Distance From Project Corridor (miles) column. Specifically:

- Lease of an existing vehicle maintenance facility in Ajo, Arizona = 40 miles.
- Proposed construction of 36 miles of pedestrian barrier, 35 miles of patrol and drag road, eight water wells, two new temporary staging areas, five existing staging areas, and approximately 7.5 miles of improvements to north-south access roads = 15 miles
- Proposed acquisition of 30 acres adjacent to the USBP Ajo station for horse corral, station expansion, and parking = 30 miles.

Page 5-3, Cumulative Impact: The correct citation is Kralovec 2007.

Page 5-4, Cumulative Impact, Biological Resources: Please define 'suitable habitat' in lack of and vast amounts in terms of species composition the statement "...result in insignificant cumulative impacts to vegetation communities and wildlife populations due to the lack of suitable habitat in the project corridor and vast amounts of suitable habitat surrounding the project corridor." Also, please support this statement with a citation which explains which species the habitat is unsuitable for in the project corridor.

6.3, Environmental Design Measures, Biological Resources:

6.4, Environmental Design Measures, Cultural Resources: The document should describe what type of buffers will be employed to protect International Boundary Monument 166, 167, and 168.

There are several other elements which should be considered and inclusive of the final Environmental Assessment for this project;

- Contractor staging sites and access to specific areas along the fence line
- Designate water source opportunities for the contractors-the monument is prohibited from selling water to outside contractors.
- Define responsible party for continued maintenance of fence and roadway.

Sharing a couple of final recommendations in general; I would once again ask you to fully evaluate the benefits of continuing the pedestrian fence over Sonoyta/Monument Hill verses ending it at the end of our Normandy Barriers. Our preference if asked would be to save this funding and utilize it elsewhere along the border. The other recommendation is to be sure the new design of this pedestrian fence is incorporated into the vehicle barrier in place and allows for continued maintenance of these fences for future out years. We do not want to see a second fence built prohibiting access to the vehicle barrier in place or for that matter placing employees in jeopardy with no immediate retrieval place if the situation requires it.

Thanks again and I look forward to your Final Environmental Assessment.

Sincerely,

Lee Baiza
Superintendent, Organ Pipe Cactus National Monument

Cc:Robert Frankeberger, State Historic Preservation Officer
Peter L. Steere, Manager Cultural Affairs Office, Tohono O'odham
Dion Ethell, Public Lands Liaison, U.S. Department of Homeland Security



THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT

2221 WEST GREENWAY ROAD
PHOENIX, AZ 85023-4399
(602) 942-3000 • AZGFD.GOV

GOVERNOR
JANET NAPOLITANO
COMMISSIONERS
CHAIRMAN, MICHAEL M. GOLIGHTLY, FLAGSTAFF
WILLIAM H. MCLEAN, GOLD CANYON
BOB HERNBRODE, TUCSON
JENNIFER L. MARTIN, PHOENIX
ROBERT R. WOODHOUSE, ROLL
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL



October 5, 2007

U.S. Army Corps of Engineers
Fort Worth District
ATTN: CESWF-PM-EC/McGregor
819 Taylor Street, Room 3A28
Fort Worth, TX 76102

Re: Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

To Whom It May Concern:

The Arizona Game and Fish Department (Department) appreciates the opportunity to comment on the Draft Environmental Assessment (DEA) and Finding of No Significant Impact (FONSI) for the proposed project located near the Lukeville Port of Entry. The Department recognizes national security as a top priority for the State of Arizona. That being stated, the Department is concerned that much of the tactical infrastructure (pedestrian fencing, roads, etc.) associated with border protections against increasing numbers of undocumented immigrants is fragmenting and degrading important habitats, impacting genetic viability of species, and leading to further declines of currently imperiled and rare species.

For the proposed project analyzed within the DEA, the Department is concerned about increased activities by Border Agents at the termination points of the fence. The added activities and protection measures, without consideration of "virtual" fencing may further impact and degrades habitat and movement abilities for wildlife. We advocate for mitigating measures to support and conserve wildlife, including opportunities to collect baseline information to better document the impacts of illegal activities and Border Operations on wildlife and wildlife habitat.

The DEA does not address species other than federally listed or candidate species. There are two reptile species of interest that have the potential to be impacted directly by construction of the fence through the Sonoyta Hills; Sonoran desert tortoise and Mexican rosy boas. We recommend that construction activities follow the Department's "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects" which can be found at <http://www.azgfd.gov/hgis/pdfs/Tortoisehandlingguidelines.pdf>. In this particular case, the Department recommends that any tortoises that are encountered should be kept within the Sonoyta Hills, and not displaced farther away.

October 5, 2007

2

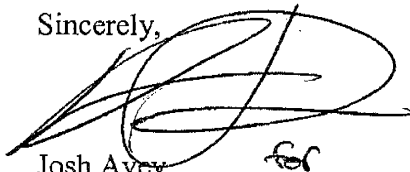
Mexican rosy Boas are considered a Species of Greatest Conservation Need in the Department's State Wildlife Action Plan. The distribution of Mexican rosy boas is not well understood, and local population status is unknown. While the Department does not have specific recommendations dealing with rosy boas, the desert tortoise handling guidelines would also apply to this species with respect to searching the site and moving the animals.

Understanding that for many proposed security infrastructure projects, there can be no reliable conservation measures taken to reduce or mitigate impacts to wildlife, given the federal goal of reducing and managing the flow of undocumented immigrants into the U.S. Therefore, the Department must determine how to meet our agency's Mission, under conditions which are difficult to offset, given the security and protection priorities. In this regard, the Department provides the following recommendations:

- We request increased and upfront coordination between the BP, CBP, DHS, and other border protection agencies, including meeting with staff to discuss plans and infrastructure proposals (such as road construction, construction of fencing and barriers, etc.) and potential impacts on wildlife. Advanced coordination will allow our agencies to identify and resolve potential issues up front.
- Dedicate funding for ecological mitigation and restoration activities, including wildlife enhancement and conservation projects.
- Use low-impact infrastructure, where appropriate, to mitigate the environmental effects of undocumented migration and other illegal activities.
- Emphasize high-tech surveillance alternatives (unmanned aerial surveillance vehicles, motion sensors, laser barriers and infrared cameras) that can improve border security efforts and minimize impacts on wildlife and sensitive habitats.
- Limit the use of pedestrian fences to urban and adjacent areas. Use vehicle barriers (wildlife friendly) in conjunction with virtual fencing in areas where hard infrastructure is necessary and appropriate.

In summary, the Department requests that immediate efforts be made to improve communications between our agencies to improve opportunities to address and mitigate impacts to wildlife and wildlife habitats from border infrastructure projects and activities. Please coordinate with me at 602-789-3605 or javey@azgfd.gov. We appreciate the opportunity to provide these concerns and look forward to speaking with appropriate staff in the near future.

Sincerely,



Josh Avey
Habitat Branch Chief

cc: Bill Van Pelt, Nongame Birds and Mammals Manager
Thomas Jones, Amphibians and Reptiles Program Manager
Bill Knowles, Region IV Habitat Program Specialist

Arizona's On-line Environmental Review Tool

Search ID: 20071005004081

Project Name: Lukeville POE Pedestrian Fencing

Date: 10/5/2007 11:23:51 AM

Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference. If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool Inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: <http://arizonaes.fws.gov/>.

Phoenix Main Office
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021
Phone 602-242-0210
Fax 602-242-2513

Tucson Sub-Office
201 North Bonita, Suite 141
Tucson, AZ 85745
Phone 520-670-6144
Fax 520-670-6154

Flagstaff Sub-Office
323 N. Leroux Street, Suite 101
Flagstaff, AZ 86001
Phone 928-226-0614
Fax 928-226-1099

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and

Arizona's On-line Environmental Review Tool
Search ID: 20071005004081
Project Name: Lukeville POE Pedestrian Fencing
Date: 10/5/2007 11:23:51 AM

management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.

Project Category: Law Enforcement Activities Associated with the Border, Fencing

Project Type Recommendations:

Based on the project type entered; coordination with State Historic Preservation Office may be required
<http://www.pr.state.az.us/partnerships/shpo/shpo.html#anchor561695>

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife.

Recommendations will be dependant upon goals of the fence project and the wildlife species expected to be impacted by the project. Please

contact the Project Evaluation Program for further fencing recommendations and specifications.

Project Location and/or Species recommendations:

HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:
Ecological Services Office
US Fish and Wildlife Service

2321 W. Royal Palm Rd.
Phoenix, AZ 85021-4951
Phone: 602-242-0210
Fax: 602-242-2513

HDMS records indicate that one or more native plants listed on the Arizona Native Plant Law and Antiquities Act have been documented within the vicinity of your project area (refer to page 1 of the receipt). Please contact:

Arizona Department of Agriculture
1688 W Adams
Phoenix, AZ 85007
Phone: 602-542-4373

HDMS records indicate that Sonoran desert tortoise have been documented within the vicinity of your project area (refer to the species list on page 1 of the receipt). Please review the Tortoise Handling Guidelines found on the Environmental Review Home Page.

<http://www.azgfd.gov/hgis/guidelines.aspx>

Phone Number: (602) 789-3600
Fax Number: (602) 789-3928

Terms of Use

By using this site, you acknowledge that you have read and understand the terms of use. Department staff may revise these terms periodically. If you continue to use our website after we post changes to these terms, it will mean that you accept such changes. If at any time you do not wish to accept the Terms, you may choose not to use the website.

1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you will not use this website for any other purpose.
2. Unauthorized attempts to upload information or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.
3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the website and to terminate or restrict your access to the website.
4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area, location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.

Security:

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using

Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).**
7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
2221 West Greenway Road
Phoenix, Arizona 85023-4312

Arizona's On-line Environmental Review Tool

Search ID: 20071005004081

Project Name: Lukeville POE Pedestrian Fencing

Date: 10/5/2007 11:23:51 AM

this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Further coordination requires the submittal of this Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).

Please provide point of contact information regarding this Environmental Review.

Application or organization responsible for project implementation

Agency/organization: _____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____



TOHONO O'ODHAM NATION
CULTURAL AFFAIRS PROGRAM
P.O. BOX 837 • SELLS, ARIZONA 85634
Telephone (520) 383-3622 • Fax (520) 383-3377



September 20, 2007

Eric W. Verwers
Director, Engineering and Construction Support Office
Department of the Army
Fort Worth District, Corps of Engineers
P.O. Box 17300
Fort Worth, Texas
76102-0300

Dear Mr. Verwers:

Thank you for consulting with the Tohono O'odham Nation on:

The Draft Environment Assessment for the Proposed Installation of 5.2 Miles of Primary Fence Near Lukeville, Arizona, U.S. Border Patrol, Tucson Sector."

The Cultural Affairs Office has the following comments:

- 1. FONSI-page 2 – Only two alternatives considered – 1) the no action alternative and 2) the proposed action alternative**

It appears that the proposed action alternative is the "preferred alternative" although this is not stated.

Other alternatives should have been considered – perhaps one that would involve a natural barrier of vegetation interwoven with the existing vehicle barrier fence.

- 2. FONSI-page 2 – Alternative 2 – 150 ft ROW on Sonoyta Hill is very large and will result in significant impacts to vegetation and wildlife**
- 3. FONSI-page 2 – Alternative 2 – "The Final Design would be developed by design-build contractor." Same mistake made here that was made on the Sasabe Project – you cannot prepare and issue an EA that is supposed to evaluate impacts of 5.2 miles of pedestrian fence and not include a final design. This is unacceptable – final design or at least several option designs need to be presented as part of the EA review – this need to be addressed in a new draft EA that includes more specific designs.**

4. FONSI-page 2 – Environmental Consequences –

“The viewshed of the OPCNM would be impacted by the construction of the pedestrian fence.”

Yes this is true – there is a need to complete a viewshed study and cultural landscape impact study as part of the evaluation process. This has not been done yet.

5. FONSI – page 3 – “the potential exists for shifts in illegal pedestrian traffic to adversely impact resources outside of the project corridor.”

This statement is obvious – illegal pedestrian traffic will go around the east and west side of the pedestrian fence – concentrating impacts on other parts of OPCNM and of course concentrating increased illegal traffic onto the Tohono O’odham Nation east of the Ajo Mountains. The redirection of illegal pedestrian traffic onto the Tohono O’odham Nation was not addressed in the Sasabe EA nor is it addressed in this EA.

The appropriateness of this type of pedestrian fence design in a remote rural wilderness area without 24/7 ground patrol is questionable, just as it was for the Sasabe fence project.

6. FONSI – page 3 – Environmental Design Measures – for these measures to work – there will need to be monitors on site throughout the construction process – past experience strongly suggests that construction contractors will not do an adequate job of self-monitoring.

How will a contractor recognize a previously unknown cultural resource such a buried archaeological site, a burial or a shrine ?

You need to have and fund archaeological monitors and cultural monitors from the Tohono O’odham Nation on site throughout the construction project.

7. FONSI-page 5 – FINDING – “Proposed Action Alternative will not have a significant effect on the environment – Therefore no further environmental impact analysis is warranted.”

Disagree – this conclusion is not supported by EA is present form.

8. page 1-5 – “In some locations, a fence is a critical element of border security”

if a pedestrian fence is built in a remote rural area – unless there is adequate 24/7 ground patrol – the fence is easily breached by going around it, over it, under it or through it

9. page 2.1 Section 2.0 – as stated before an adequate range of alternatives was not addressed

Other alternatives should have been considered – perhaps one that would involve a natural barrier of vegetation interwoven with the existing vehicle barrier fence.

10. page 3.1 – Land Use- March 2006 MOU between DHS, USDI and USDA stating that “all parties recognize that CBP operation and construction within the Roosevelt Reservation is the intended land use of the reservation”

This MOU is flawed – the Tohono O’odham Nation and other border tribes were not consulted nor invited to participate in the MOU – All of these lands is OPCNM are the traditional-use lands of the Tohono O’odham Nation

This MOU may be in violation of the provisions of the Gadsden Purchase with Mexico in 1854 and hereto in reference to provisions of the Treaty of Guadalupe Hidalgo that ended the United States War with Mexico in 1848, regarding the rights of indigenous peoples in the border area.

11. page 3.1-3.2 – “It should be noted that the area outside of the 60 ft Roosevelt Reservation that would be used in order to build the fence over Sonoyta Hill would require use of OPCNM lands, Coordination with the OPCNM has occurred and the OPCNM has indicated their support for the fence construction” (Harper 2007).

the Tohono O’odham Nation was not consulted on this July 2007 agreement that approved a 150 ft ROW corridor on Sonoyta Hill. The archaeological survey reports received for review by the Tohono O’odham Nation did not include a 150 survey corridor on Sonoyta Hill – no Traditional Cultural Place consultation has been completed for this increased ROW on Sonoyta Hill. A consultation and field trip with Hia Ced O’odham elders from the needs to be arranged and completed as part of Traditional Cultural Landscape study.

12. page 3-4 – Cabeza Prieta National Wildlife Refuge, The Tohono O’odham,

no mention made of direct and indirect impacts on the Cabeza Prieta National Wildlife Refuge by diverting more illegal pedestrian traffic onto the refuge.

no mention made of direct and indirect impacts on the Tohono O’odham Nation by diverting more illegal pedestrian traffic onto the lands of the Tohono O’odham Nation

13. page 3.5 – Wilderness – no mentioned made of direct and indirect impacts on OPCNM wilderness areas by diverting and concentrating illegal pedestrian traffic

14. page 3-10 Section 3.7 – Cultural Resources

review of federal cultural resource laws should include the Archaeological Resources Protection Act (ARPA) and the Native American Graves Protection and Repatriation Act (NAGPRA)

page 3-11 table showing cultural periods is oversimplified-should be more detailed

3.7.2 - Previous Investigations - please send copy of 2002 cultural resource report to Cultural Affairs office for review

3.7.3 – Current Investigation – please send copy of this recent cultural resources survey referenced, Tohono O’odham Nation has not received this.

For this type of intrusive tall fence a cultural landscape/viewshed study should be completed in order to evaluate impacts – please send copy of study report when it is completed – this should have been done as part of the cultural resources survey work before the draft EA was issued.

15. page 3-13 – Section 3.10.1 – Environmental Justice

E.O. 12898 – Environmental Justice was designed to identify and evaluate effects of Federal programs and projects on minority and low-income populations in the U.S.

This project has not addressed the fact that this fence will likely divert illegal pedestrian traffic onto the Tohono O’odham Nation to the east.

This impact needs to be evaluated.

16. page 3-15 – Section 3.12 Aesthetics

This section of the EA misses the point completely. The EA is supposed to address the impacts of the proposed pedestrian fence project on the landscape of the project area – building a tall intrusive pedestrian fence will have impacts on the cultural and physical landscape.

As mentioned earlier, a cultural landscape/viewshed study needs to be completed for this proposed project – this type of study would evaluate

the impacts of the proposed fence design on the cultural and physical landscape. This type of study should have been done before the draft EA was done.

Since the project does not have a fence design yet – this problem needs to be solved before a cultural landscape/viewshed study can be done

17. Section 4.0 Environmental Consequences

page 4.1 – paragraph 3 – “At this time the design of the border fence is not known”

An EA cannot adequately analyze and evaluate impacts of a construction project if the project design is “not known”

The EA needs to be rewritten to address the design problem.

All of the impacts discussed in this section are difficult to evaluate when you don’t know what the construction design is going to be.

The 150 ft ROW corridor proposed on Sonoyta Hill raises concerns about impacts on vegetation, wildlife and cultural sites

Sonoyta Hill needs to be evaluated as a possible Traditional Cultural Place – a trip of tribal elders to visit this sites Sonoyta Hill needs to be arranged to evaluate its significance if any as a Traditional Cultural Place – the National Historic Preservation Act of 1966 requires this.

18. page 4-10 – Section 4.7 Cultural Resources

Copies of the 2002 and 2007 cultural resources report have not been provided to the Tohono O’odham Nation for review.

This section of the report cannot be adequately evaluated until these reports have been reviewed – please send them as soon as possible

As stated earlier – a Cultural Landscape/Viewshed study needs to be completed so impacts of this project with a “unknown design” can be evaluated – this type of study involves input from archaeologists, historians, landscape specialists with the NPS and members of the Tohono O’odham Nation.

Any type of construction project such as a tall fence or a power line has the potential to create impacts on the visual manifestation of the cultural landscape and aesthetic view shed – this EA does not address this issue.

Since previously unknown cultural resources may be encountered during construction such as a buried archaeological site, a burial or a shrine may be encountered – archaeological monitors and cultural monitors from the Tohono O’odham Nation need to be present throughout this construction project.

As stated earlier the selected construction contractor does not have the expertise to identify cultural resources that may be encountered during construction – so DHS/BP needs to provide adequate funding to cover the costs of archaeological monitors and cultural monitors from the Tohono O’odham Nation for the entire length of the proposed construction project.

The monitors should be identified as part of the cultural resources treatment plan for this project.

19. page 4-15 – Section 4.12 Aesthetics

Please refer to Nos. 4, 14, 17, and 18 that discuss the need to complete a cultural landscape/viewshed study.

20. page 5-1 – Section 5.0 – Cumulative Impacts

In the discussion of cumulative impacts – Table 5-1 is shown to illustrate examples of recently completed or other possible future projects that may involve impacts to the border region by actions of DHS/BP.

The proposed construction of 36 miles of pedestrian barrier, 35 miles of patrol and drag roads, eight water wells, two new staging areas, five existing staging areas and 7.5 miles of improvements to north-south access roads all involve considerable possible impacts to the border lands that will require new EA’s to be done for each projects. The Tohono O’odham Nation needs to be kept informed of all of these projects and copies of draft EA’s, cultural resources reports and biological reports need to be sent for review prior to the draft EA’s being sent out for review.

Where are these proposed projects located – more specific information is needed.

These proposed projects cannot be piggy-backed onto this EA.

page 5-4 Cultural Resources

cannot be adequately evaluated until copies of 2002 and 2007 cultural resource reports sent to Tohono O’odham Nation for review.

full impacts cannot be addressed until a cultural landscape/viewshed study is completed that provides an analysis of the impacts of a tall intrusive fence on the cultural landscape and aesthetic viewshed.

21. page 6.1 – Section 6.0 Environmental Design Measures

please refer to comments No. 6 and 18 for discussion of need to have archaeological and cultural monitors on site during construction

page 6.2 and 6.3 – Cultural Resources

EA states “ if any cultural material is discovered during the construction efforts, then all activities will halt until a qualified archaeologist can be brought in to assess the cultural remains.”

The selected contractor whoever that may be is not qualified to do this.

Archaeological monitors and cultural monitors from the Tohono O’odham Nation who are trained to identify and deal with cultural discoveries whether they are cultural artifacts, buried features, burial or shrines.

DHS/BP must provide adequate funding for these archaeological monitors and cultural monitors from the Tohono O’odham Nation

Burial discovery plan needs to be prepared and included with cultural resources treatment plan.

21. page 7-1 – Section 7.0 Public Involvement

List presented includes other government agencies consulted as part of preparation of the EA

List includes “Federally Recognized Tribes.”

This statement is not true- Tohono O’odham Nation not consulted during preparation of this EA.

Tohono O’odham Nation first consulted when the Draft EA received in the mail.

What other tribes have received the EA ? What other tribes were consulted during EA preparations ?

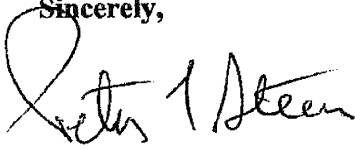
Again DHS/BP has not involved the Tohono O’odham Nation as part of

the consultation and coordination that occurred during the preparation of this EA.

The lands included within the Organ Pipe Cactus National Monument are the "traditional-use lands " of the Tohono O'odham and the Hia Ced Oodham as recognized by the Federal Land Claims Court and Native American Graves Repatriation and Protection Act procedures in Arizona.

We look forward to reviewing a new draft of this EA.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter L. Steere". The signature is fluid and cursive, with the first name "Peter" and last name "Steere" clearly distinguishable.

Peter L. Steere, Manager
Cultural Affairs Office, Tohono O'odham Nation

cc: Lee Baiza, Superintendent, Organ Pipe Cactus National Monument
Joseph Tuomey, Archaeologist, Organ Pipe Cactus National Monument
Nancy Parrish, USACE, Fort Worth

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

PROJECT:		AJO DRAFT EA	DATE:	October 17, 2007
PROJECT MILESTONE:		Draft Environmental Assessment for the Proposed Installation of 5.2 Miles of Primary Fence Near Lukeville Arizona		
Response Legend: A - Concur; D = Do Not Concur; E - Exception; X - Delete Comment				
#	Reviewer	Comment	Response	
1	P. Steere	FONSI-page 2 Only two alternatives considered – 1) the no action alternative and 2). It appears that the proposed action alternative is the “preferred alternative” although this is not stated. Other alternatives should have been considered – perhaps one that would involve a natural barrier of vegetation interwoven with the existing vehicle barrier fence.	D. A natural barrier of vegetation does not meet the purpose and need of the Proposed Action because it is easily defeatable. E. One other alternative was considered but eliminated from further review. This alternative was to use technology in lieu of infrastructure. Because the use of technology alone would not provide a practical solution to achieving effective control of the border in USBP Tucson Sector. Therefore, this alternative would not meet the purpose and need. See Section 2.3.1 of the Final EA.	
2	P. Steere	FONSI-page 2-Alternative 2 150 ft ROW on Sonoyta Hill is very large and will result in significant impacts to vegetation and wildlife	D. The impact over Sonoyta Hill outside of the 60-foot Roosevelt Reservation is limited to only 7 acres. The Organ Pipe Cactus National Monument (OPCNM) is over 330,000 acres; therefore, the Proposed Action Alternative would impact less than 0.002 percent of the OPCNM not within the Roosevelt Reservation and is not considered significant.	
3	P. Steere	FONSI-page 2-Alternative 2 “The Final Design would be developed by design-build contractor.” Same mistake made here that was made on the Sasabe Project – you cannot prepare and issue an EA that is supposed to evaluate impacts 5.2 miles of pedestrian fence and not include a final design. This is unacceptable – final design or at least several option designs need to be presented as part	D. The EA does address potential impacts on a worse case scenario, regardless of design. The conceptual design footprint was developed by the design engineers and they believe this will be the maximum footprint needed to accomplish the proposed project.	

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
4	P. Steere	<p>of the EA review – this need to be addressed in a new draft EA that includes more specific design.</p> <p>FONSI-page 2-Environmental Consequences</p> <p>“The viewshed of the OPCNM would be impacted by the construction of the pedestrian fence.”</p> <p>Yes this is true – there is a need to complete a viewshed study and cultural landscape impact study as part of the evaluation process. This has not been done yet.</p>	<p>D. The TON along with other federally recognized tribes that claim a cultural affinity to the area were contacted in June 2007 and were requested to identify any traditional cultural properties (TCPs) that may potentially be impacted by the proposed fence construction. No response identifying any TCPs near the proposed project corridor was received from the TON or other Federally recognized tribes. No archaeological sites were identified within the project corridor during the archaeological surveys of the project corridor. The 2002 survey conducted by the National Park Service identified two cultural landscapes, Dos Lomitas Ranch/Blankenship Well and Quitobaquito Well. Neither of these cultural landscapes would be impacted by the proposed fence construction. At this time a comprehensive TCP survey of the border area involving the TON and other Federally recognized tribes is in the planning and development stages for future projects along the border.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
5	P. Steere	FONSI-page 3-"the potential exists for shift in illegal pedestrian traffic to adversely impact resources outside of the project corridor." This statement is obvious – illegal pedestrian traffic will go around the east and west side of the pedestrian fence – concentrating impacts on other parts of OPCNM and of course concentrating increased illegal traffic onto the Tohono O'odham Nation east of the Ajo Mountains. The redirection of illegal pedestrian traffic onto the Tohono O'odham Nation was not addressed in the Sasabe EA nor is it addressed in this EA. The appropriateness of this type of pedestrian fence design in a remote rural wilderness area without 24/7 ground patrol is questionable, just as it was for the Sasabe fence project.	D. As indicated in the throughout Section 4 of the Draft EA the impacts of illegal pedestrian traffic are difficult if not impossible to determine due to the shifting of illegal traffic. The project corridor and areas to the west and east is currently patrolled by the USBP 24/7. Additionally, the proposed pedestrian fence would act as a force multiplier and allow the USBP to deploy additional agents to those areas lacking pedestrian fence (i.e., Cabeza Prieta National Wildlife Refuge and the Tohono O'odham Nation).
6	P. Steere	FONSI -page 3 -Environmental Design Measures - for these measures to work - there will need to be monitors on site throughout the construction process - past experience strongly suggests that construction contractors will not do an adequate job of self-monitoring. How will a contractor recognize a previously unknown cultural resource such a buried archaeological site, a burial or a shrine? You need to have and fund archeological monitors and cultural monitors from the Tohono O'odham Nation on site throughout the construction project.	A. The document now reads, "Construction near the Gachado Line Camp will be monitored by professional archeological monitors." D. No Tohono O'odham Nation monitors are expected to be required.
7	P. Steere	FONSI-page 5 - FINDING - "Proposed Action Alternative will not have a significant effect on the environment - Therefore no further environmental impact analysis is warranted." Disagree – this conclusion is not supported by EA is present form.	D. CBP believes the current EA analyzes all of the potential impacts based on a worse case scenario, and that these impacts are less than significant.
8	P. Steere	page 1-5 - "In some locations, a fence is a critical element of border security" if a pedestrian fence is built in a remote rural area - unless there is adequate 24/7 ground patrol - the fence is easily breached by going around it, over it, under it or through it	A. See response to number 5.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
9	P. Steere	Page 2.1 Section 2.0 - as stated before an adequate range of alternatives was not addressed Other alternatives should have been considered - perhaps one that would involve a natural barrier of vegetation interwoven with the existing vehicle barrier fence.	D. See response to number 1.
10	P. Steere	Page 3-1 – Land Use – March 2006 MOU between DHS, USDI and USDA stating that "all parties recognize that CBP operation and construction within the Roosevelt Reservation is the intended land use of the reservation" This MOU is flawed -the Tohono O'odham Nation and other border tribes were not consulted nor invited to participate in the MOU -All of these lands is OPCNM are the traditional-use lands of the Tohono O'odham Nation This MOU may be in violation of the provisions of the Gadsden Purchase with Mexico in 1854 and hereto in reference to provisions of the Treaty of Guadalupe Hidalgo that ended the United States War with Mexico in 1848, regarding the rights of indigenous peoples in the border area.	D. The legality of the MOU is beyond the scope of this EA.
11	P. Steere	page 3.1-3.2 -"It should be noted that the area outside of the 60 ft Roosevelt Reservation that would be used in order to build the fence over Sonoyta Hill would require use of OPCNM lands, Coordination with the OPCNM has occurred and the OPCNM has indicated their support for the fence construction" (Harper 2007). The Tohono O'odham Nation was not consulted on this July 2007 agreement that approved a 150 ft ROW corridor on Sonoyta Hill The archaeological survey reports received for review by the Tohono O'odham Nation did not include a 150 survey corridor on Sonoyta Hill -no Traditional Cultural Place consultation has been completed for this increased ROW on Sonoyta Hill. A consultation and field trip with Hia Ced O'odham elders from the needs to be arranged and completed as part of Traditional Cultural Landscape study.	E. No agreement has been made between NPS and CBP. The statement, ".....OPCNM has indicated their support for the fence construction (Harper 2007) has been removed from the document." E. See response to number 4.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
12	P. Steere	<p>page 3-4 - Cabeza Prieta National Wildlife Refuge, The Tohono O'odham, no mention made of direct and indirect impacts on the Cabeza Prieta National Wildlife Refuge by diverting more illegal pedestrian traffic onto the refuge.</p> <p>No mention made of direct and indirect impacts on the Tohono O'odham Nation by diverting more illegal pedestrian traffic onto the lands of the Tohono O'odham Nation</p>	D. See Section 4.4.2 of the Draft EA.
13	P. Steere	<p>page 3.5 -Wilderness - no mentioned made of direct and indirect impacts on OPCNM wilderness areas by diverting and concentrating illegal pedestrian traffic</p>	D. See Section 4.5.2 of the Draft EA.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
14	P. Steere	<p>page 3-10 Section 3.7 -Cultural Resources review of federal cultural resource laws should include the Archaeological Resources Protection Act (ARPA) and the Native American Graves Protection and Repatriation Act (NAGPRA)</p> <p>Page 3-11 table showing cultural periods is oversimplified-should be more detailed</p> <p>3.7.2 - Previous Investigations - please send copy of 2002 cultural resource report to Cultural Affairs office for review</p> <p>3.73 - Current Investigation - please send copy of this recent cultural resources survey referenced, Tohono O'odham Nation has not received this.</p> <p>For this type of intrusive tall fence a cultural landscape/viewshed study should be completed in order to evaluate impacts - please send copy of study report when it is completed - this should have been done as part of the cultural resources survey work before the draft EA was issued.</p>	<p>A. Information regarding ARPA and NAGPRA has been included in the Final EA. The document now reads, "Several other important pieces of legislation include the Native American Graves Protection and Repatriation Act (NAGPRA), along with EO 13007 and EO 13175. ARPA strengthened the permitting procedures required for conducting archeological fieldwork on federal lands, originally mandated by the Antiquities Act. It also establishes more rigorous fines and penalties for unauthorized excavation on federal land. NAGPRA mandates the OBP to summarize, inventory, and repatriate cultural items in the possession of or control of the Federal agency to lineal descendants or to culturally affiliated Federally recognized Indian tribes. NAGPRA also requires that certain procedures be followed when there is an intentional excavation of or an inadvertent discovery of human remains. EO 13007 was issued on May 24, 1996 in order to facilitate the implementation of the American Indian Religious Freedom Act of 1978. It specifically charges Federal agencies to: (1) accommodate, to the extent practical, American Indian access to and use of sacred sites by religious practitioners; (2) avoid adversely affecting the physical integrity of sacred sites; and (3) to maintain the confidentiality of these sites. EO 13175 outlines the official U.S. government policy on consultation and coordination with American tribal governments.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
		14 continued.	<p>The order emphasizes formal recognition of the American Indian Tribes' status as... "domestic independent nations" that have entered into treaties with the U.S. guaranteeing their right to self-government. It stipulates that this consultation would be done on a "government to government basis."</p> <p>D. Thank you for the comment but CBP respectfully disagrees.</p> <p>D. The 2002 Cultural Resources report was written and developed by the National Park Service. A copy of the report can be obtained from them.</p> <p>A. A copy of the 2007 Cultural Report will be submitted by USACE to the Tohono O'odham Nation for review.</p> <p>D. See response to number 4.</p>
15	P. Steere	<p>page 3-13 - Section 3.10.1 -Environmental Justice E.O. 12898 -Environmental Justice was designed to identify and evaluate effects of Federal programs and projects on minority and low-income populations in the U.S. This project has not addressed the fact that this fence will likely divert illegal pedestrian traffic onto the Tohono O'odham Nation to the east. This impact needs to be evaluated.</p>	<p>D. The document was revised in Section 4.10.2 to include this paragraph, "Indirect impacts could occur to areas outside of the project corridor if illegal pedestrian traffic shifts to other areas of the U.S.-Mexico border (i.e., TON). However, it is impossible to determine what those impacts would be, if any, as the direction of travel is solely at the discretion of the IAs. As mentioned previously, the pedestrian fence would allow the USBP to deploy additional agents to those areas lacking infrastructure to minimize impacts from any potential shift in IA traffic."</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
16	P. Steere	<p>page 3-15 -Section 3.12 Aesthetics This section of the EA misses the point completely. The EA is supposed to address the impacts of the proposed pedestrian fence project on the landscape of the project area - building a tall intrusive pedestrian fence will have impacts on the cultural and physical landscape. As mentioned earlier, a cultural landscape/viewshed study needs to be completed for this proposed project - this type of study would evaluate the impacts of the proposed fence design on the cultural and physical landscape. This type of study should have been done before the draft EA was done. Since the project does not have a fence design yet - this problem needs to be solved before a cultural landscape/viewshed study can be done</p>	<p>D. See response to number 4. Aesthetic impacts discussed in Section 4.12 of the Draft EA.</p>
17	P. Steere	<p>Section 4.0 Environmental Consequences page 4.1 -paragraph 3 - At this time the design of the border fence is not known" An EA cannot adequately analyze and evaluate impacts of a construction project if the project design is "not known" The EA needs to be rewritten to address the design problem. All of the impacts discussed in this section are difficult to evaluate when you don't know what the construction design is going to be. The 150 ft ROW corridor proposed on Sonoyta Hill raises concerns about impacts on vegetation, wildlife and cultural sites Sonoyta needs to be evaluated as a possible Traditional Cultural Place - a trip of tribal elders to visit this sites Sonoyta Hill needs to be arranged to evaluate its significance if any as a Traditional Cultural Place - the National Historic Preservation Act of 1966 requires this.</p>	<p>D. See response to numbers 2 and 4.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
18	P. Steere	<p>page 4-10 - Section 4.7 Cultural Resources Copies of the 2002 and 2007 cultural resources report have not been provided to the Tohono O'odham Nation for review. This section of the report cannot be adequately evaluated until these reports have been reviewed - please send them as soon as possible As stated earlier - a Cultural Landscape/Viewshed study needs to be completed so impacts of this project with a "unknown design" can be evaluated -this type of study involves input from archaeologists, historians, landscape specialists with the NPS and members of the Tohono O'odham Nation. Any type of construction project such as a tall fence or a power line has the potential to create impacts on the visual manifestation of the cultural landscape and aesthetic view shed -this EA does not address this issue. Since previously unknown cultural resources may be encountered during construction such as a buried archaeological site, a burial or a shrine may be encountered - archaeological monitors and cultural monitors from the Tohono O'odham Nation need to be present throughout this construction project. As stated earlier the selected construction contractor does not have the expertise to identify cultural resources that may be encountered during construction - so DHSBP needs to provide adequate funding to cover the costs of archaeological monitors and cultural monitors from the Tohono O'odham Nation for the entire length of the proposed construction project. The monitors should be identified as part of the cultural resources treatment plan for this project.</p>	D. See response to numbers 4 and 6.
19	P. Steere	<p>page 4-15 -Section 4.12 Aesthetics Please refer to Nos. 4, 14, 17 and 18 that discuss the need to complete a cultural landscape/viewshed study.</p>	D. See response to number 4.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
20	P. Steere	<p>page 5-1 - Section 5.0 - Cumulative Impacts</p> <p>In the discussion of cumulative impacts -Table 5-1 is shown to illustrate examples of recently completed or other possible future projects that may involve impacts to the border region by actions of DHS/BP.</p> <p>The proposed construction of 36 miles of pedestrian barrier, 35 miles of patrol and drag roads, eight water wells, two new staging areas, five existing staging areas and 7.5 miles of improvements to north-south access roads all involve considerable possible impacts to the border lands that will require new EA's to be done for each projects. The Tohono O'odham Nation needs to be kept informed of all of these projects and copies of draft EA's, cultural resources reports and biological reports need to be sent for review prior to the draft EA's being sent out for review.</p> <p>Where are these proposed projects located - more specific information is needed?</p> <p>These proposed projects cannot be piggy-backed onto this EA.</p> <p>page 5-4 Cultural Resources cannot be adequately evaluated until copies of 2002 and 2007 cultural resource reports sent to Tohono O'odham Nation for review. Full impacts cannot be addressed until a cultural landscape/viewshed study is completed that provides an analysis of the impacts of a tall intrusive fence on the cultural landscape and aesthetic viewshed.</p>	<p>A. An EA was completed for 36 miles of PVB, 35 miles of patrol and drag roads, eight water wells, two new staging area, five existing staging area, and 7.5 miles of north-south access roads on BMGR west. However, on January 12, 2007 DHS Secretary Chertoff signed a waiver authorizing CBP to build the project you describe in your comment. This waiver relinquished CBP's responsibility to complete any further environmental documentation.</p> <p>D. All projects have undergone NEPA analysis and appropriate public review.</p> <p>D. See response to number 4.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
21	P. Steere	<p>page 6.1 - Section 6.0 Environmental Design Measures please refer to comments No. 6 and 18 for discussion of need to have archaeological and cultural monitors on site during construction page 6.2 and 6.3 - Cultural Resources</p> <p>EA states "if any cultural material is discovered during the construction efforts, then all activities will halt until a qualified archaeologist can be brought in to assess the cultural remains."</p> <p>The selected contractor whoever that may be is not qualified to do this.</p> <p>Archaeological monitors and cultural monitors from the Tohono O'odham Nation who are trained to identify and deal with cultural discoveries whether they are cultural artifacts, buried features, burial or shrines.</p> <p>DHSBP must provide adequate funding for these archaeological monitors and cultural monitors from the Tohono O'odham Nation Burial discovery plan needs to be prepared and included with cultural resources treatment plan.</p>	E. See response to number 6.
22	P. Steere	<p>page 7-1 -Section 7.0 Public Involvement</p> <p>List presented includes other government agencies consulted as part of preparation of the EA</p> <p>List includes "Federally Recognized Tribes."</p> <p>This statement is not true- Tohono O'odham Nation not consulted during preparation of this EA.</p> <p>Tohono O'odham Nation first consulted when the Draft EA received in the mail.</p> <p>What other tribes have received the EA? What other tribes were consulted during EA preparations?</p> <p>Again DHS/BP has not involved the Tohono O'odham Nation as part of the consultation and coordination that occurred during the preparation of this EA.</p> <p>The lands included within the Organ Pipe Cactus National Monument are the "traditional-use lands" of the Tohono O'odham and the Hia Ced Oodham as recognized by the Federal Land Claims Court and Native American Graves Repatriation and Protection Act procedures in Arizona.</p>	D. A letter dated June 8, 2007 was submitted to the TON as part of the early coordination process. See Appendix C of the Final EA. See also response to number 4.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
23	J. Avey	General Comment the Department is concerned that much of the tactical infrastructure (pedestrian fencing, roads, etc.) associated with border protections against increasing numbers of undocumented immigrants is fragmenting and degrading important habitats, impacting genetic viability of species, and leading to further declines of currently imperiled and rare species.	E. Fragmentation is discussed in Section 4.3.2.2 of the Draft EA.
24	J. Avey	General Comment The Department is concerned about increased activities by Border Agents at the termination points of the fence. The added activities and protection measures, without consideration of "virtual" fencing may further impact and degrades habitat and movement abilities for wildlife. We advocate for mitigating measures to support and conserve wildlife, including opportunities to collect baseline information to better document the impacts of illegal activities and Border Operations on wildlife and wildlife habitat.	E. This idea is currently in the preplanning phase of technology based infrastructure to assist in the detection of IAs. However, technology alone cannot create deterrence to illegal traffic. Absolute certainty of apprehension is the best method to achieve deterrence and infrastructure is required to make these apprehensions. See response to number 1.
25	J. Avey	General Comment There are two reptile species of interest that have the potential to be impacted directly by construction of the fence through the Sonoyta Hills; Sonoran desert tortoise and Mexican rosy boas. We recommend that construction activities follow the Department's "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects" which can be found at http://www.azgfd.gov/hnris/pdfs/Tortoisehandlingguidelines.pdf Department recommends that any tortoises that are encountered should be kept within the Sonoyta Hills, and not displaced farther away.	A. Mitigation measures are included in the Final EA, which state that any tortoise found during construction would be placed outside of the construction footprint but within a limited distance from the area it was discovered (i.e., if the tortoise was found on Sonoyta Hill it would be placed outside of the 150-foot construction footprint but still on Sonoyta Hill).

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
26	J. Avey	<p>General Comment</p> <p>We request increased and upfront coordination between the BP, CBP, DHS, and other border protection agencies, including meeting with staff to discuss plans and infrastructure proposals (such as road construction, construction of fencing and barriers, etc.) and potential impacts on wildlife. Advanced coordination will allow our agencies to identify and resolve potential issues up front.</p> <p>Dedicate funding for ecological mitigation and restoration activities, including wildlife enhancement and conservation projects.</p> <p>Use low-impact infrastructure, where appropriate, to mitigate the environmental effects of undocumented migration and other illegal activities.</p> <p>Emphasize high-tech surveillance alternatives (unmanned aerial surveillance vehicles, motion sensors, laser barriers and infrared cameras) that can improve border security efforts and minimize impacts on wildlife and sensitive habitats.</p> <p>Limit the use of pedestrian fences to urban and adjacent areas. Use vehicle barriers (wildlife friendly) in conjunction with virtual fencing in areas where hard infrastructure is necessary and appropriate.</p>	<p>A. CBP submitted an early coordination letter to AZDGF on June 8, 2007, AZDGF was also supplied a copy of the Draft EA for review. Additionally, CBP has dedicated monies to wildlife conservation, uses low impact infrastructure when possible (e.g., bollard style fence in washes), and currently in the preplanning phase of implementing technology based infrastructure to facilitate enforcement activities.</p>
27	L. Baiza	<p>FONSI</p> <p>There are only two alternatives considered in the draft with one being no action and the other being the proposed or possibly the preferred.</p>	<p>A. Thank you for the comment. CBP decided that for this project there are no other viable alternatives that satisfy the purpose and need of the proposed project. See response to number 1.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
28	L. Baiza	We suggest an additional alternative which would include a combination of pedestrian fencing, remote technology, and law enforcement effort. As an example, the proposed pedestrian fence west of Lukeville would extend to the end for the existing National Park Service vehicle barrier (Normandy Barrier) and a remotely operated video camera placed at the top of Sonoyta/Monument Hill to monitor incursions on either side. This combined with increased law enforcement presence, would likely deter illegal activity from and minimize the impact of the proposed project on resources in this area. It would also minimize the enormous impacts to Sonoyta/Monument Hill resources and possibly keep this work in the realm of an Environment Assessment. With the additional portion of new road especially extending possibly 150 feet from the International Boundary and 90 feet beyond the Roosevelt Reservation the nature of this work will cause irreparable damages to resources now and into the future and will probably require a full Environmental Impact Statement.	E. See response to number 1.
29	L. Baiza	Another major concern is the proper conveyance of floodwaters through the pedestrian fence. It should be more clearly defined in the EA and FONSI. Specifically, design drawings should be included as to how floodwaters will be conveyed through the pedestrian fence and debris normally accumulating on existing vehicle barrier dealt with.	E. The design build concept will include drawings of how the fence would be built. The design will have to take into consideration the conveyance of floodwaters as is stated in the Draft EA. Further, the USBP would be responsible for maintenance of the fence, which includes debris removal.
30	L. Baiza	Utilizing the design – build concept works in many projects and probably will for this one too. The concern again is that the final EA should include alternative and final drawings of approved designs which will allow for a more consistent review.	A. See response to number 3.
31	L. Baiza	FONSI-2, Environmental Consequences: The home range of many species of small mammals and reptiles are localized within, could be contained within the project scope, and cross the international boundary. The presence of a pedestrian fence which could prevent small mammals and reptiles from crossing the international boundary could have more than a minimal impact on individuals as they are denied access to important forage and breeding habitat.	D. The habitat within the project corridor is highly disturbed from past and present human presence. The design of the fence will also include measures to ensure minimization of impacts to small mammals and reptiles, as noted in Section 2.1 of the Final EA.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
32	L. Baiza	<p>FONSI-3, Environmental Consequences: Based on past security measures near POE's, it is likely that the presence of a pedestrian fence on either side of the Lukeville POE will force IA's into more remote areas of the monument. Trash and debris may be reduced on a local scale in the project corridor; however, the regional deposition of trash from IA's will shift to more remote areas of the monument.</p>	<p>A/E. We concur that the Proposed Action will minimize and potentially eliminate debris on a localized level. However, CBP can not accurately state that the trash previously deposited by IAs entering near the POE will be deposited anywhere else on the OPCNM. The movements of IAs are totally at their discretion. Additionally, as stated throughout the Draft EA, the fence will act as a force multiplier allowing agents to be deployed to areas lacking fence.</p>
33	L. Baiza	<p><u>Executive Summary</u> Page iii: The correct citation year for the Organ Pipe Cactus National Monument vehicle barrier EA and FONSI is 2003.</p>	<p>A. The correction has been made in the Final EA.</p>
34	L. Baiza	<p><u>Proposed Action Alternative:</u> 2.2, Proposed Action Alternative: It is anticipated an area greater than the Roosevelt Reservation (60ft.) will be needed to construct an access road, vehicle turn arounds, and staging area for the pedestrian fence over Sonoyta/Monument Hill. The current grade on Monument Hill is greater than 10%. In order to transport equipment to the work site, switchbacks may be required to traverse either side of Sonoyta/Monument Hill and, consequently, require the access road to be partially located outside of the Roosevelt Reservation. This type of disturbance would not support the current Finding of No Significant Impact and requires additional analysis of effects.</p>	<p>A. We concur that the area over Sonoyta Hill will require more than the 60-foot Roosevelt Reservation. The Proposed Action states that over Sonoyta Hill the construction footprint will extend 90-feet outside of the Roosevelt Reservation for approximately 0.65 miles.</p> <p>D. CBP does not believe that extending 90-feet outside of the Roosevelt Reservation for approximately 0.65 miles over Sonoyta Hill will create significant impacts. The total acreage to be impacted outside of the Roosevelt Reservation is 7 acres which represents less than 0.0002 percent of the lands on the OPCNM.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
35	L. Baiza	Proposed Action Alternative: 2.2, Proposed Action Alternative: It is difficult to evaluate the effects of the preferred alternative on the surrounding resources because no fence design was included in the document. The final draft document should include the current and alternative designs and analyze the impact of this design on the surrounding resources.	D. The Final EA will include the best information possible regarding certain requirements the fence must meet but the actual design will be established once the design build contract has been awarded. The EA uses worse case scenario when analyzing potential impacts in lieu of final fence designs. See response to number 3.
36	L. Baiza	Proposed Action Alternative: 2.2, Proposed Action Alternative: Staging areas and turnarounds could likely be located outside of the Roosevelt Reservation when constructing the new primary fence over Sonoyta/Monument Hill.	A. As stated in the EA, the construction footprint traversing Sonoyta Hill will exceed the 60-foot Roosevelt Reservation.
37	L. Baiza	Affected Environment 3.3.2, Wildlife: Sonoran toad is widespread throughout the desert and breeds in ephemeral pools and could be found within the project area.	E. No ephemeral pools were observed in the construction footprint.
38	L. Baiza	Table 3-1, Federally listed and proposed species: Organ Pipe Cactus National Monument supports one known population of Acuña cactus, located approximately 8 miles north of the international boundary.	A. Thank you for your comment. Table 3-1 has been revised to stipulate that Acuña cactus are located approximately 8 miles north of the U.S.-Mexico border on the OPCNM.
39	L. Baiza	3.6.1.1, Sonoran Pronghorn: Mexico Highway 2 is not adjacent to the project corridor as it joins the boundary at OPCNM approximately 5 miles west of the POE. Additionally, the existing NPS vehicle barrier was designed to allow for pronghorn passage and is not considered an impediment to Sonoran pronghorn movement (NPS 2003).	A/D. Mexico Highway 2 is not adjacent but rather "near" the project corridor. The highway is no farther than 0.6 miles from the project corridor. Additionally, the document has been revised to stipulate that the existing PVBs do not act as an impediment to pronghorn movement.
40	L. Baiza	3.6.1.3 Acuña cactus: There are 6 known populations of Acuña cactus in the United States and Sonora, Mexico (Rutman 2007). One population is located on approximately 1,900 acres in Organ Pipe Cactus National Monument (Rutman 2007).	A. See response to number 38.
41	L. Baiza	Figure 3-1, Sonoran Pronghorn Range with Project Corridor: This figure should indicate the location of Mexico Highway 2 as it is referenced in the previous paragraph.	A. Figure 3-1 has been revised to show Mexico Highway 2.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
42	L. Baiza	3.4, Unique and Environmentally Sensitive Areas: The document adequately describes the unique habitat and vegetation of Organ Pipe Cactus National Monument and its surrounding lands. However, additional information should be included on any unique and environmentally sensitive areas in the project area. These include the rocky hillside communities on Monument Hill and the many xeroriparian communities which cross through the project area. Xeroriparian communities are a critical component of the Sonoran Desert ecosystem.	E. The document has been revised to read, "Within the project corridor lies components (i.e., xeroriparian areas and rocky hillsides) that make up the Sonoran Desert ecosystem for which the OPCNM was set aside to preserve. These components are common throughout the Sonoran Desert."
43	L. Baiza	3.5, No mention made of consideration for protection of Wilderness Values especially since a major portion of the work will take place adjacent to monument wilderness.	D. See Section 4.5 of the Draft EA.
44	L. Baiza	3.7, The Tohono O'odham Nation has direct affiliation with Organ Pipe Cactus National Monument. They should also be contacted to comment on cultural landscapes and traditional properties.	A. The Tohono O'odham Nation was sent early coordination via a letter dated June 8, 2007. No response was received from the Tohono O'odham Nation at that time. However, the Tohono O'odham Nation did comment on the Draft EA. E. See response to number 39.
45	L. Baiza	3.12, Aesthetics: Please see comment above for 3.6.1.1 in reference to the proximity of Mexico Highway 2 to the project corridor.	
46	L. Baiza	3.12, Aesthetics: The items listed, with the exception of the existing PVB, can not be seen from South Puerto Blanco Drive where the view shed and aesthetics would be impacted from construction of the pedestrian fence. Consider utilizing non reflective non galvanized or coated metals in the design of this fence. Material color should match the natural rust patina on the vehicle barrier in place.	D. South Puerto Blanco Drive is not the only location for view shed and aesthetics of the area to be observed. The towns of Lukeville, Az and Sonoyta, Mexico as well as the Lukeville POE can be observed from South Puerto Blanco Drive. Environmental design measures will be incorporated into the Final EA stating that a non-reflective material would be used to reduce potential impacts to aesthetics.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
47	L. Baiza	Page 3-16, Photograph 3-2: The photograph is from an area west and outside of the project corridor.	A. The photo is used to depict to the reader how close Mexico Highway 2 is located to the U.S.-Mexico border. The photograph was taken approximately 0.7 miles down slope and west of the project corridor.
48	L. Baiza	Environmental Consequences 4.0, Environmental Consequences: As stated above, it's difficult to evaluate the effects of the preferred alternative on the surrounding resources because no fence design was included in the document. The next draft document should include the current and alternative designs and analyze the impact of this design on the surrounding resources.	See response to number 3.
49	L. Baiza	4.1.2, Land Use, Alternative 2: Based on past border security actions, it is likely that IAs will move to more remote areas of the monument as a result of the proposed alternative. This could lead to additional traffic and potential adverse indirect impact in areas away from the pedestrian fence.	See response to number 5.
50	L. Baiza	4.1.2, Land Use, Alternative 2: The EA indicated that 7 acres outside of the Roosevelt Reservation will be impacted from this access. However, an engineered drawing of the proposed route up and over "Sonoyta Hill" should be completed and included in the EA along with an analysis of the amount of land which will be disturbed from this route.	See response to number 2.
51	L. Baiza	4.2.2, Soils, Alternative 2: The approximate acreage of soils to be impacted by this alternative should also include soils for the access road over "Sonoyta Hill". In the design water diversion and soil retention structures will need to be considered for the cleared area over Sonoyta/Monument Hill.	E. The approximate acreage needed for the construction footprint of the project is presented and analyzed as part of the Draft EA (45 total acres to be impacted of which approximately 17 acres have been previously impacted). The design for the completion of this project will account for water diversion and soil retention.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
52	L. Baiza	4.3.2.2, Wildlife, Alternative 2: Please support the statement "...previously disturbed, and the remainder has limited vegetation, which is now considered poor quality habitat." with a citation supporting this statement and description of what wildlife species this would be considered poor habitat.	E. The assessment of poor quality habitat is professional judgment based upon the amount of past and on-going human disturbance within the project corridor. As an example, the project corridor would be considered poor quality habitat for mule deer (<i>Odocoileus hemionus</i>) due to the lack of vegetation and development on the south side of the border.
53	L. Baiza	4.3.2.2, Wildlife, Alternative 2: The statement "...due to tens of thousands of acres of suitable, similar habitat adjacent to the project corridor." is not accurate. OPCNM contains a mosaic of diverse habitat ranging Sonoran desert scrub to temperate mountain communities. Wildlife in OPCNM is diverse and many are found only in localized areas; such as the Acuña cactus, Senita cactus, Sonoyta mud turtle, and desert tortoise. Desert tortoise is present in several areas within the project scope and the fence design should ensure adequate passage for desert tortoise between the United States and Mexico.	D. The vegetation communities found in the project corridor are common throughout the OPCNM and surrounding region. E. The fence will be designed to allow for small mammal and reptile passage.
54	L. Baiza	4.3.3.2, Non-native and invasive species, Alternative 2: The document states that "With the exception of Sonoyta Hills, this area has been previously disturbed from the construction of the existing PVBS". This is not an accurate statement as the NPS vehicle barrier project scope was 30 ft. from the international border with the exception of 60 ft for staging areas. The scope for this project is 60 ft from the international border.	D. The document has been revised to state, "With the exception of the Sonoyta Hill, almost half of the project corridor has been previously disturbed from the construction of the existing PVBs and ongoing park management and USBP enforcement activities."
55	L. Baiza	4.3.3.2, Non-native and invasive species, Alternative 2: Please support the following statement "Disturbances would occur adjacent to existing roads and would not create new dispersal corridors or result in the expansion of non-native or invasive plant species distributions." with a citation. Once introduced and established, invasive species can spread by human and/or animal vector and wind.	A. The document was revised to read, "Disturbances would occur in vegetated areas that would create dispersal corridors for invasive species. However, because the project corridor would be patrolled by NPS and USBP (limiting potential for growth) and would be monitored for the spread of invasive species potential impacts would not be considered significant". See Section 6.0 of the Final EA.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
56	L. Baiza	<p>4.4.2, Unique and Environmentally Sensitive Areas, Alternative 2: The following two statements contradict each other:</p> <p>"The construction crew and equipment would access the project corridor along the border road entirely within the Roosevelt Reservation, limiting visual and noise impacts to the OPCNM".</p> <p>"However, the use of South Puerto Blanco Road would be required to access the project corridor on the western face of Sonoyta Hill."</p> <p>Please clarify this discrepancy.</p>	<p>E. The document as been revised to state, "....noise impacts to the OPCNM with the exception of the 150-foot construction footprint needed to traverse Sonoyta Hill. The use of South Puerto Blanco Road...."</p>
57	L. Baiza	<p>Page 4-7, 4.4.2, Unique and Environmentally Sensitive Areas, Alternative 2: The first paragraph address aesthetics in several places, however the subheading indicates the topic is "Unique and Environmentally Sensitive Areas".</p>	<p>E. The document as been revised to read, "Unique and Sensitive Areas."</p>
58	L. Baiza	<p>4.4.2, Unique and Environmentally Sensitive Areas, Alternative 2: Due to the open terrain which typifies OPCNM, the proposed action would be visible from areas outside of the disturbed area, including Gachado Line Camp, South Puerto Blanco Road, the El Camino Del Dos Republicos.</p>	<p>A. The impacts to aesthetics are discussed in Section 4.4.2 of the Draft EA.</p>
59	L. Baiza	<p>4.7.2, Cultural Resources, Alternative 2: Proposed Action Alternative: The NPS monitors the condition of its List of Classified Structures (LCS). International Boundary Monument 166, 167, and 168 are on the NPS LCS. The EA should describe how NPS staff will access the sites post construction.</p>	<p>E. The International Boundary Monuments will be accessible for maintenance purposes, as required by IBWC and NPS; however, at this time the final design of the fence and roads has not been selected. The design will take monument access into consideration.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
60	L. Baiza	4.9.2, Water Resources, Alternative 2: The National Park Service is concerned about the potential for water to be restricted through washes which the pedestrian barrier will cross. During high water events, debris can build up against any barrier in washes (Photo 1) and change water flow direction and pattern and channel water along the road to an area of less resistance (Photo 2). Any change to water flow direction and pattern will, in turn, change the hydrology of the area on a local and, if large, enough, general scale on both the United States and Mexico side of the international border. The pedestrian fence design should accommodate water flow through the fence without changing hydrologic function of the area.	A. The design of the fence will allow for the conveyance of water and will not impact the hydrologic function of the area. This is one of the design performance mandates established for the design of the fence. See Section 2.2 of the Final EA.
61	L. Baiza	Photo 1: Debris backup against the vehicle barrier during one high water flow event at Vulture Wash, Organ Pipe Cactus National Monument, 2005.	E. Thank you for the photo.
62	L. Baiza	Photo 2: Erosion around a vehicle barrier post during one high water flow event, Organ Pipe Cactus National Monument 2005.	E. Thank you for the photo.
63	L. Baiza	4.12.2, Aesthetics, Alternative 2: The construction of a pedestrian fence over Sonoyta Hill would constitute a long-term adverse impact to the visual quality of this area, which is visible from State Highway 85, Lukeville and South Puerto Blanco Road.	D. Although an adverse impact would occur to the aesthetics as indicated in the EA, the beneficial gain from the reduction of IA traffic and associated disturbances would reduce this impact to less than significant. Additionally, the USBP would use non-reflective materials.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
64	L. Baiza	<p>Page 5-2, Table 5-1: There are several discrepancies in the Approximate Distance From Project Corridor (miles) column. Specifically:</p> <ul style="list-style-type: none"> Lease of an existing vehicle maintenance facility in Ajo, Arizona = 40 miles. Proposed construction of 36 miles of pedestrian barrier, 35 miles of patrol and drag road, eight water wells, two new temporary staging areas, five existing staging areas, and approximately 7.5 miles of improvements to north-south access roads = 15 miles Proposed acquisition of 30 acres adjacent to the USBP Ajo station for horse corral, station expansion, and parking = 30 miles. 	<p>A. Document has been revised as recommended.</p>
65	L. Baiza	<p>Page 5-3, Cumulative Impact: The correct citation is Kralovec 2007.</p>	<p>A. The citation has been corrected.</p>
66	L. Baiza	<p>Page 5-4, Cumulative Impact, Biological Resources: Please define 'suitable habitat' in lack of and vast amounts in terms of species composition the statement "...result in insignificant cumulative impacts to vegetation communities and wildlife populations due to the lack of suitable habitat in the project corridor and vast amounts of suitable habitat surrounding the project corridor." Also, please support this statement with a citation which explains which species the habitat is unsuitable for in the project corridor.</p>	<p>E. The document has been revised to say, "no cumulative impact is expected since habitat in the project corridor is considered common and the abundance of similar habitat both locally and regionally."</p>
67	L. Baiza	<p>6.3, Environmental Design Measures, Biological Resources:</p>	<p>No comment provided</p>
68	L. Baiza	<p>6.4, Environmental Design Measures, Cultural Resources: The document should describe what type of buffers will be employed to protect International Boundary Monument 166, 167, and 168.</p>	<p>See response to number 59.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
69	L. Baiza	<p>There are several other elements which should be considered and inclusive of the final Environmental Assessment for this project;</p> <ul style="list-style-type: none"> -Contractor staging sites and access to specific areas along the fence line -Designate water source opportunities for the contractors-the monument is prohibited from selling water to outside contractors. -Define responsible party for continued maintenance of fence and roadway. 	<p>E. All construction will occur within the footprint depicted in the EA. With the exception of the 150-foot footprint traversing Sonoyta Hill all construction will occur within the 60-foot Roosevelt Reservation.</p> <p>Groundwater will be obtained north of the OPCNM from municipal water supplies in Why, Ajo, or Gila Bend.</p> <p>A. The document was revised in Section 2.2 to state that the USBP will be responsible for maintaining the fence.</p>
70	L. Baiza	<p>Sharing a couple of final recommendations in general; I would once again ask you to fully evaluate the benefits of continuing the pedestrian fence over Sonoyta/Monument Hill verses ending it at the end of our Normandy Barriers. Our preference if asked would be to save this funding and utilize it elsewhere along the border. The other recommendation is to be sure the new design of this pedestrian fence is incorporated into the vehicle barrier in place and allows for continued maintenance of these fences for future out years. We do not want to see a second fence built prohibiting access to the vehicle barrier in place or for that matter placing employees in jeopardy with no immediate retrieval place if the situation requires it.</p>	<p>The USBP understands and appreciates the sensitivity of this area. In accordance with Federal mandates, the USBP has been directed to secure the border. The USBP has determined that pedestrian fence is critical to securing the border in the project corridor.</p>
71	K. Howe	<p>1. Page FONSI-2, Alternatives. Only two alternatives are presented for this project. We feel this is inadequate for the stated purpose and need of this project especially in regard to mitigation for permanent impacts to wildlife corridors that a fence would present. Other alternatives could take into account different styles of fence as well as placement of gaps to provide for large wildlife movement.</p>	<p>D. See response to number 1. The design of the fence it not known at this time; however, designs must accommodate the passage of small mammals and reptiles. Additionally, due to the developed nature of the project corridor, large mammals most likely do not utilize this area and therefore the fence would not adversely impact large mammal movement.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
72	K. Howe	2. Page FONSI-2, Alternative 2. Stated in this paragraph as well as in many places within the DEA is that "the final design would be developed by the design/build contractor." If this is the case, this document is moot because impacts to the environment cannot be thoroughly assessed and addressed until the final design is known.	D. See response to number 3.
73	K. Howe	3. Page FONSI-2 & -3, Environmental Consequences. The impacts to wildlife movement across the international boundary are characterized as minimal. Are there studies that have been documented/written to support this statement? If so, these need to be referenced. The generalization of the minimization of indirect adverse affects does not take into account that increased USBP action and the affect of additional agents in these areas will most likely add to the impacts, especially IA apprehensions in undisturbed and wilderness areas on the Nation to the east and the OPCNM and Cabeza Prieta National Wildlife Refuge (CPNWR) to the west. The statement that illegal pedestrian traffic impacts are "unknown, if, when, or where this shift in traffic may occur" is undermined by the assertion that "wildlife would also still be able to migrate across . . . the border either to the east or west of the project footprint terminus" (Section 4.4.2.2, page 4-5). If a determination can be made for migratory adaptability for wildlife then that would hold true for pedestrian traffic as well and so can be a "known" quantity where this assertion is made throughout the DEA. Flow of IA foot traffic will find the areas of least resistance in the surrounding lands.	E. Within the project corridor the impacts to wildlife movement across the U.S.-Mexico border are considered minimal. This professional judgment is based upon the disturbed nature of the habitat, wildlife abundance, and location of the project corridor within developed areas. D. Thank you for your comment but CBP respectfully disagrees. As stated, large animals will be able to move across the U.S.-Mexico border. Whether they choose to or not is up to the individuals just as it is with IAs. Although IAs may enter at the point of least resistance, USBP can not predict where that point may be, it could be anywhere along the southwest border where infrastructure does not exist.
74	K. Howe	4. Page FONSI-3, Environmental Design Measures. Within the FONSI and text of the DEA (Sec. 6.0 Environmental Design Measures) there is no mention of preventive measures to prevent initial invasive species establishment, such as hosing down equipment, vehicles, etc. that provide opportunities for invasive species to be brought to the construction corridor.	E. The document was revised to read, "Construction equipment will be cleaned using BMPs prior to entering and departing the project corridor to minimize the spread and establishment of non-native invasive plant species."
75	K. Howe	5. Page FONSI-4, Biological Resources. See comment 4 above.	See response to number 74.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
76	K. Howe	<p>6. Page FONSI-4, Water Resources. We appreciate the acknowledgement that work conducted during times of heavy rains greatly impacts the Sonoran Desert environment and that work will cease during those times.</p> <p>As discussed in Section 4.9, pages 4-12, -13, the water source for construction purposes is unknown making it problematic to assess what local impacts may occur if groundwater is utilized. Is the estimation of 5.2 ac-feet usage for construction over the entire span of construction? Is this number based on the amounts discussed in 4.0, page 4-1? What is the time-frame? Also, there is no source cited for the groundwater water recharge and withdrawal rates. Are these numbers an average and if so, over what period of time? This discussion needs to be expanded to account for the determination of no significant impact.</p>	<p>E. The document was revised to reads "a range of 5.2 to 11.4 acre-feet would be used." This amount is over the entire span of construction.</p> <p>E. The explanation of volume of water potentially used is provided in Section 4.0, page 4-1. The construction process is slated to be completed by end of December 2008. See Section 3.9 for groundwater withdrawal and recharge rate citations. The numbers presented is the best data available are based on yearly totals.</p> <p>D. CBP feels that the information provided and analyzed is sufficient in determining no significant impacts would occur based on the proposed project.</p>
77	K. Howe	7. Page 3-4, The Tohono O'odham Nation. "The largest of the four areas within TON" shares approximately 70 miles with Mexico and contains significant cultural and biological resources.	A. The document was revised to stipulate that the "TON extends 70 miles across the U.S.-Mexico border."
78	K. Howe	<p>8. Page 5-1, 5.0. Cumulative Impacts. As stated, this section discusses how the project affects the region. The WVMP and other Nation programs that oversee and assess impacts to the Nations' biological and other resources were not consulted as to how the pedestrian fence may affect these resources.</p> <p>Land Use. While it states that "less than 0.002 percent of OPCNM total acreage" would be impacted, the land usage as utilized as a north-south migratory and forage path will have a significant impact to wildlife by impeding their movement.</p>	<p>D. The TON was sent early coordination in the form of a letter dated June 8, 2007, see Appendix C. Additionally, as evidenced by your comments on the Draft EA the TON were given the opportunity to comment on the proposed project.</p> <p>D. See response to number 73.</p>

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

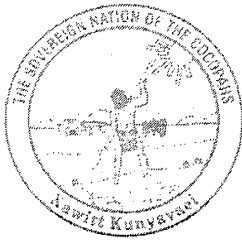
Review Comments Matrix

#	Reviewer	Comment	Response
79	K. Howe	9. Page 5-4, Biological Resources. See Land Use above. Until and when there is discussion about the quality and quantity of resources available to wildlife and plants to provide for their sustainability in the region the contention that over the long-term species and community viability will not be significantly impacted cannot be supported.	D. CBP respectfully disagrees with your assertion that significant impacts will occur to wildlife in the region due to the proposed project. Additionally, the loss of less than 0.0002 percent of the lands within the OPCNM combined with the fact that some of this land is currently disturbed or void of vegetation supports the determination of no significant impacts. E. See response to number 15.
80	K. Howe	10. Page 5-5, Socioeconomics. Possible IA traffic funneled to areas around the pedestrian fence onto the Nation may have some relative, if not significant, cumulative impact to villages on the Nation's western boundary. If IA foot traffic increases in these areas, there may be a corresponding increase in public safety issues. The Nation's police and medical services to address these issues would also increase.	
81	K. Howe	11. Page 7-1, Public Involvement. Although a primary stakeholder in the region, the Nation was not consulted and coordinated with in preparation of this document as were other tribes as evidenced in Appendix C. Also noted was the increase of primary fence from 4.2 miles provided to correspondents to 5.2 miles in the current DEA. In order to make accurate assessments for impacts to natural and cultural resources it is important that any changes be provided to interested parties.	D. See response to number 22. The draft EA was provided to interested parties for review and comments. The current mileage for the project is depicted in the Draft EA.
82	C. Peña	The United States Section, International Boundary and Water Commission (USIBWC) would like to thank you for the opportunity to review the subject document. As indicated in previous correspondence related to Border Patrol fence projects, the USIBWC requests that proposed construction activities be accomplished in a manner that does not change historic surface runoff characteristics at the international border. If the project falls within USIBWC jurisdiction or property, the USIBWC will not approve any construction near the international boundary in the United States that increases, concentrates, or relocates overland drainage flows into either country. This requirement is intended to ensure that developments in one country will not cause damage to lands or resources in the other country as required by the 1970 Treaty.	E. The fence will be designed in a manner to not impede, increase, concentrate, or relocate any overland flow into either country.

**DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED INSTALLATION OF 5.2 MILES OF PRIMARY FENCE
NEAR LUKEVILLE, ARIZONA
U.S. BORDER PATROL
TUCSON SECTOR**

Review Comments Matrix

#	Reviewer	Comment	Response
83	C. Peña	We also request that you ensure that structures constructed along the border are maintained in an adequate manner and that liability issues created by these structures are addressed.	E. The fence will be maintained by the USBP and will have to meet minimum requirements of stopping a vehicle at 40 miles per hour (i.e., the fence will be structurally sound).
84	C. Peña	As with previous work by Border Patrol along the international boundary, the USBWC requires that proposed works and related facilities not affect the permanence of existing boundary monuments and not impede access for their maintenance by USBWC personnel. Any proposed construction must allow for line-of-sight visibility between each of the boundary monuments. The USBWC requests that engineering drawings be submitted for review and approval before beginning construction on USBWC jurisdictional property. The drawings must show the location of each component in relationship to the international boundary and nearby monuments.	A. CBP recognizes the importance of line-of-sight between monuments and will ensure that designs are distributed to the USBWC. Additionally, the fence will not preclude either USBWC or NPS staff from being able to access or perform maintenance on the International Boundary Monuments.
85	C. Peña	In order to avoid any confusion and to allow better coordination, the USBWC requests that a table be added to the Cumulative Effects Section that lists all the border fence projects, by state, that are being programmed for construction.	D. CBP feels that the table provided is adequate. The cumulative impact section looks at the ROI only. Fences in other states would not have affected the cumulative impact within the ROI for this document.



THE COCOPAH INDIAN TRIBE

Cultural Resource Department
County 15th & Avenue G
Somerton, Arizona 85350
Telephone (928) 627-2102
Fax (928) 627-2280

CCR-040-07-005

September 26, 2007

H. Jill McCormick
Cocopah Tribe
County 15 & Avenue G
Somerton, AZ 85350
928-503-2291

William Fickel, Jr.
Chief Planning, Environmental & Regulatory Division
P.O. Box 17300 – 819 Taylor Street
Fort Worth, Texas
76102-0300

RE: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence
along the International Border near Lukeville, Arizona

Dear Mr. Fickel:

The Cultural Resources Department of the Cocopah Indian Tribe appreciates your consultation efforts on this project. We are pleased that you contacted our department on this issue for the purpose of solicitation of our input and to address our concerns on this matter. At this time, we wish to make no comment on the development of the project. We defer the decision making process regarding the sensitive cultural resources of the area to the most local tribe(s) and support their determinations on these issues. However, we would like to continue to be kept informed on the situation and be a part of the consultation process in the future.

If you have any questions or need additional information please feel free to contact the cultural resource department. We will be happy to assist you with any and all future concerns or questions. Again, thank you for your efforts in this matter and we look forward to working with you on future projects.

Sincerely,

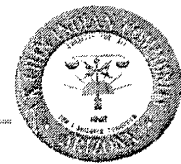

H. Jill McCormick
Cultural Resource Manager



AK-CHIN INDIAN COMMUNITY

Cultural Resources Office

42507 W Peters & Nall Road • Maricopa, Arizona 85239 • Telephone: (520) 568-1369 • Fax: (520) 568-1366



September 21, 2007

Nancy Parish
Department of the Army
Fort Worth District, Corps of Engineers
P.O. Box 17300
819 Taylor Street
Fort Worth, Texas 76102-0300

Re: Draft EA for the Installation of 5.2 miles of Primary Fence along the International Border near Lukesville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Dear Ms. Parish:

The Ak-Chin Cultural Resources Office did receive a copy of the Draft Environmental Assessment (EA) for the above-referenced undertaking.

At this time, our office has no questions and will defer comments to the Tohono O'odham Nation.

If you have any questions, please contact me at (520) 568-1369.

Sincerely,

A handwritten signature in dark ink, appearing to read "Gary Gilbert".

Gary Gilbert
Cultural Resources Technician II
Cultural Resources Office
Ak-Chin Indian Community



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Delia Carlisle, Chairperson
ATTN: Ms. Nancy Nelson, Cultural Resources Manager (Acting)
Ak Chin Indian Community
47685 N Eco Museum Rd
Maricopa, AZ 85239


Dear Chairperson Carlisle:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,


William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Sherry Cordova, Chairperson
ATTN: Ms. Jill McCormick
Cocopah Tribe
County 15th & Avenue G
Somerton, AZ 85350

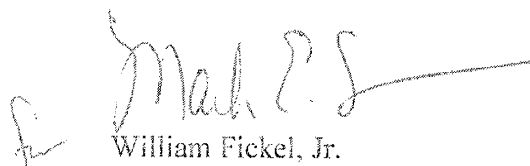
Dear Chairperson Cordova:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

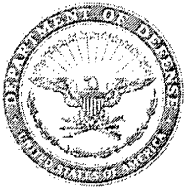
The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,


William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Daniel Eddy, Jr., Chairman
ATTN: Mr. E. George Ray, Director Museum
Colorado River Indian Tribes
Route 1, Box 23-B
Parker, AZ 85344


Dear Chairperson Eddy:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,


William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable William Rhodes, Governor
ATTN: Mr. Barnaby Lewis
Gila River Indian Community
Cultural Resources Management Program
P.O. Box 2140
Sacaton, AZ 85247


Dear Governor Rhodes:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,


William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Benjamin H. Nuvamsa, Chairman
ATTN: Leigh Kuwanwisiwma
The Hopi Tribe
Main Street
Kykotsmovi, AZ 86039

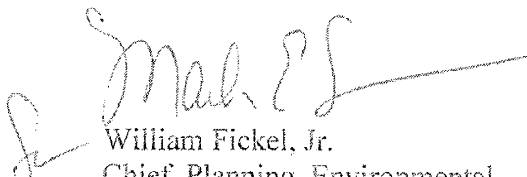
Dear Chairperson Nuvamsa:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,


William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Hermnia Frias, Chairperson
ATTN: Ms. Amalia A.M. Reyes, Cultural Resources
Pascua Yaqui Tribe
7474 S Camino de Oeste
Tucson, AZ 85746

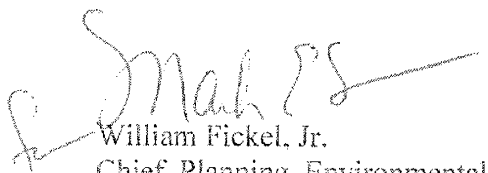
Dear Chairperson Frias:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,


William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Mike Jackson, Jr., President
Quechan Tribe
ATTN: Ms. Pauline Jose
Fort Yuma-Quechan Tribal Museum
350 Pichcho Rd
Winterhaven, CA

Dear President Jackson:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Joni Ramos, President
ATTN: Ms. Dezbah Hatathli, Cultural Programs Supervisor
Salt River Pima-Maricopa Indian Community
Cultural and Environmental Services Department
10005 E. Osborn
Scottsdale, AZ 85256

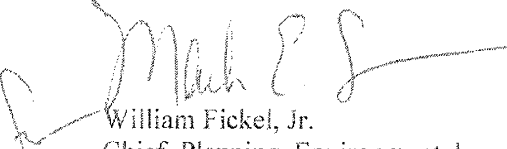
Dear President Ramos:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,


William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Wendsler Nosie, Sr., Chairperson
ATTN: Ms. Vernelda Grant, THPO
San Carlos Apache Tribe
P.O. Box 0
San Carlos, AZ 85550

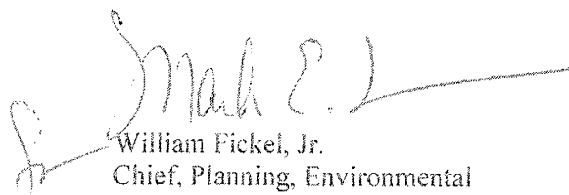
Dear Chairperson Nosie:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,


William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Ned Norris, Jr., Chairman
ATTN: Mr. Peter Steere, Cultural Resources Manager
Tohono O'odham Nation
Cultural Affairs Department
Main Street
Sells, AZ 85634

Dear Chairman Norris:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

September 17, 2007

Planning, Environmental and
Regulatory Division

SUBJECT: Draft Environmental Assessment for the Installation of 5.2 miles of Primary Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Ajo Station, Arizona

Honorable Ronnie Lupe, Chairman
ATTN: Mr. Mark Atalha, THPO
White Mountain Apache Tribe
P.O. Box 507
Fort Apache, AZ 85926

Dear Chairman Lupe:

In a letter dated June 8, 2007, we wrote to you regarding our intentions to assist the Department of Homeland Security (DHS), Customs and Border Protection (CBP), Office of Border Patrol (OBP) in preparing an Environmental Assessment (EA) for the construction of primary fence near Lukeville, AZ.

The proposed border fence would begin 2.1 miles west of the Lukeville, AZ Port of Entry (POE) and extend eastward along the U.S.-Mexico international border for 5.2 miles. The potential project would retrofit vehicle barriers with border fence and also include the construction of new fence in the Sonoyta Hills area. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north) except around the Sonoyta Hills where 150-foot wide corridor would be used.

Enclosed please find a copy of the draft EA for your review and comment. We ask that you submit any comments on the draft EA by October 17, 2007 as that is when the 30-day draft review comment period ends. We look forward to hearing any concerns you may have. If you have any questions pertaining to this project, please do not hesitate to contact Nancy Parish at (817) 886-1725.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Tucson-Pima County Community Library
ATTN: Librarian
33 Plaza
Ajo, AZ 85321

Dear Librarian:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The draft EA addresses potential impacts of the proposed construction and maintenance of 5.8 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona. The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the Lukeville POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border. Enclosed is a copy of the draft EA and draft FONSI for your review.

The USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. Please make this document available to the public. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>.

Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-ECSO/McGregor, 819 Taylor Street, Room 3A28, Fort Worth, TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Organ Pipe Cactus National Monument
ATTN: Ms. Kathy Billings
10 Organ Pipe Drive
Ajo, AZ 85321

Dear Ms. Billings:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers". The signature is fluid and cursive, with the first name "Eric" being the most prominent.

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Cultural Resources Manager
Tohono O'odham Nation
ATTN: Mr. Peter Steere
Building 49, Main Street
Sells, AZ 85634

Dear Mr. Steere:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers".

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Arizona Game and Fish Department
Habitat Branch
ATTN: Mr. Robert Magill
2221 West Greenway Road
Phoenix, AZ 85023

Dear Mr. Magill:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers".

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Wildlife and Vegetation Management Program
Tohono O'odham Nation
ATTN: Ms. Karen Howe
Building 49, Main Street
Sells, AZ 85634

Dear Ms. Howe:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers".

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Bureau of Indian Affairs
Phoenix Area Office
ATTN: Mr. Bryan Bowker
400 North 5th Street
2 Arizona Center, 12th Floor
Phoenix, AZ 85004

Dear Mr. Bowker:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers".

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

U.S. Fish and Wildlife Service
ATTN: Mr. Steve Spangle
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021-4951

Dear Mr. Spangle:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

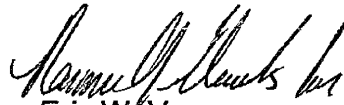
While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers".

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Arizona Game and Fish Department
Project Evaluation Program Supervisor
Habitat Branch – Project Evaluation Program
ATTN: Ms. Rebecca Davidson
2221 W. Greenway Road WM-HB
Phoenix, AZ 85023-4312

Dear Ms. Davidson:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

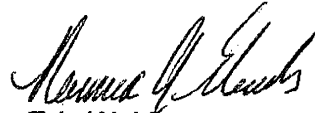
While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers", written in a cursive style.

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Defenders of Wildlife Diversity
ATTN: Mr. Brian Segee
1130 Seventeenth Street, N.W.
Washington, D.C. 20036-4604

Dear Mr. Segee:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

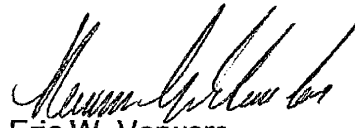
While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers", written in a cursive style.

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Border Action Network
ATTN: Mr. Bryn Jones
P.O. Box 384
Tucson, AZ 85702

Dear Mr. Jones:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers". The signature is fluid and cursive, with a large initial "E" and "V".

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Sky Island Alliance
ATTN: Mr. Matt Skroch
P.O. Box 41165
Tucson, AZ 85717-1165

Dear Mr. Skroch:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers".

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Center for Biological Diversity
ATTN: Mr. Daniel Patterson
P.O. Box 710
Tucson, AZ 85702

Dear Mr. Patterson:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers". The signature is stylized with a large, sweeping "E" and a long, horizontal stroke at the end.

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Defenders of Wildlife
ATTN: Ms. Jenny Neely
110 S. Church
Suite 4292
Tucson, AZ 8570

Dear Ms. Neely:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.


While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers".

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Defenders of Wildlife
ATTN: Ms. Kara Gillon
824 Gold SW
Albuquerque, NM 87102

Dear Ms. Gillon:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers", written in a cursive style.

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

Derechos Humanos
ATTN: Ms. Kat Rodriguez
P.O. Box 1286
Tucson, AZ 85702

Dear Ms. Rodriguez:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers", written in a cursive style.

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 11, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

U.S. Bureau of Land Management
Tucson Office
ATTN: Ms. Shela McFarland
300 W. Congress
Federal Building CNF-6V3
Tucson, AZ 85701

Dear Ms. McFarland:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers", written in a cursive style.

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 13, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

U.S. Environmental Protection Agency
Region 9
Federal Activities Office "CMD-2"
ATTN: Ms. Lisa Hanf
75 Hawthorne Street
San Francisco, CA 94105

Dear Ms. Hanf:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Todd Smith". The signature is fluid and cursive, with the first name "M." and last name "Smith" clearly distinguishable.

for Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

September 13, 2007

Engineering and Construction Support Office

Subject: Transmittal Letter for Draft Environmental Assessment and Draft Finding of No Significant Impact for the Proposed Installation of 5.2 Miles of Pedestrian Fence, United States Border Patrol, Tucson Sector, Arizona

International Boundary and Water Commission
United States Section
ATTN: Mr. Gilbert Anaya
4171 North Mesa, Suite C-100
El Paso, TX 79902-1441

Dear Mr. Anaya:

The United States (U.S.) Army Corps of Engineers, Fort Worth District has prepared a draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) on behalf of U.S. Customs and Border Protection (CBP) and the U.S. Border Patrol (USBP). The enclosed draft EA addresses potential impacts of the proposed construction and maintenance of 5.2 miles of pedestrian fence along the U.S. / Mexico International border near Lukeville, Arizona.

While no final decisions regarding the location of additional fencing along the Southwest Border have been made, the USBP is accessing the operational requirements and land issues along the entire Southwest border. The preparation of this EA does not necessarily mean the proposed pedestrian fence will be constructed. This effort is a prudent part of the planning process needed to access any environmental concerns.

The proposed project is located within the USBP Tucson Sector, Ajo Station's Area of Operation (AOR) located near the Lukeville Port of Entry (POE). The fence would extend approximately 2.1 miles to the west and 3.1 miles to the east of the POE along the U.S. / Mexico border. The purpose of the proposed action is to comply with Federal mandates to gain and maintain effective operational control of the border.

USBP is soliciting comments on the draft EA and draft FONSI from Federal and state agencies, non-governmental organizations and the general public. The draft EA and draft FONSI will be available for review at the Tucson-Pima County Community Library in Ajo, Arizona. The document can also be viewed via the internet at the following url address: <http://ecso.swf.usace.army.mil>. Written comments in regards to this document can be submitted to the U.S. Army Corps of Engineers, Fort Worth District, ATTN: CESWF-PM-EC/McGregor, 819 Taylor Street, Room 3A28, Fort Worth,

TX 76102. The deadline for receipt of comments is 30 days after the Notice of Availability has been published. The Notice of Availability is expected to be published on or before September 17, 2007.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Todd Smith". The signature is fluid and cursive, with the first name "M." and last name "Smith" clearly distinguishable.

for Eric W. Verwers
Director, Engineering and
Construction Support Office



United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951

Telephone: (602) 242-0210 Fax: (602) 242-2513



In Reply Refer to:

AESO/SE
22410-2007-SL-0337

July 10, 2007

Mr. Eric W. Verwers, Director
Engineering and Construction Support Office
Department of the Army
Fort Worth District, Corps of Engineers
Fort Worth, Texas 76102-0300

RE: Environmental Assessment for Installation of 4.2 miles of Pedestrian Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Arizona

Dear Mr. Verwers:

Thank you for your correspondence of June 4, 2007, received on June 11, 2007, requesting information on threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may occur in your proposed project area. The endangered Sonoran pronghorn (*Antilocapra americana sonoriensis*), the endangered lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), and the endangered Quitobaquito pupfish (*Cyprinodon eremus*) and its critical habitat, occur within the vicinity of the proposed Installation of 4.2 miles of Pedestrian Fence along the International Border near the Lukeville Project. Additionally, the Sonoyta mud turtle (*Kinosternon sonoriense longifemorale*) – a candidate for Federal listing, and the Quitobaquito springsnail (*Tryonia quitobaquitae*) – a sensitive species endemic to Quitobaquito, occur in the area. Quitobaquito is a unique desert oasis that is important for these species as well as a suite of migratory and resident birds.

When preparing your Environmental Assessment, we recommend you provide an analysis of the effects (both direct and indirect, as well as effects of any interrelated or interdependent actions) to all listed species and critical habitat from all components of the proposed project (i.e., installation and maintenance of the fence, roads [if proposed], and lights [if proposed]; patrol associated with the pedestrian fence and roads; etc.). We request you quantify the amount of listed species habitat that will be impacted. For example for the lesser long-nosed bat, quantify the number of forage plants that will be destroyed and salvaged. We do not recommend any groundwater be extracted from the area for project purposes; however, if it is, please quantify the amount that will be used and describe potential effects to the Quitobaquito pupfish from this groundwater use. Water levels at Quitobaquito pond are currently very low, and any

groundwater pumping could result in degradation or loss of critical habitat and mortality of Quitobaquito pupfish and other wetland species. Additionally, please provide an analysis of effects to listed species from potential shifts in illegal traffic and pursuant law enforcement that may occur as a result of the proposed project.

We are concerned about impacts of the proposed project on the aforementioned species, as well as on all native flora and fauna, and we recommend they be avoided and minimized to the greatest extent possible. Where this is not possible, we recommend impacts be offset through implementation of conservation measures to recover listed species. To avoid and minimize species impacts, we generally recommend: 1) the project footprint be minimized; 2) disturbance to all columnar cacti and agave be avoided and where this is not possible, they should be salvaged (or replaced with nursery stock) and placed near or within the project area; 3) any vegetation clearing should occur from September 2 - January 31, to avoid impacts to breeding birds protected by the Migratory Bird Treaty Act (these dates also coincide with the time period when Sonoran pronghorn are less physiologically stressed); 4) night-lighting be avoided; 5) groundwater not be extracted from the project vicinity and no water be drafted or diverted from the pond at Quitobaquito; 6) the fence be designed to allow for natural hydrological processes to occur to the greatest extent possible; 7) biological monitors be on-site during all clearing/construction-related activities of the project to ensure compliance and to ensure project activities are stopped if pronghorn are detected within one mile, and only allowed to resume after pronghorn have moved more than one mile away. We are available to assist you in developing specific measures to avoid, minimize, and offset project impacts.

Additionally, for further information the Arizona Ecological Service Field Office has posted lists of the endangered, threatened, proposed, and candidate species occurring in each of Arizona's 15 counties on the Internet. Please refer to the following web page for species information in the county where your project occurs: <http://www.fws.gov/southwest/es/arizona/>. If you do not have access to the Internet or have difficulty obtaining a list, please contact our office and we will mail or fax you a list as soon as possible.

After opening the web page, find County Species Lists on the main page. Then click on the county of interest. The arrows on the left will guide you through information on species that are listed, proposed, candidates, or have conservation agreements. Here you will find information on the species' status, a physical description, all counties where the species occurs, habitat, elevation, and some general comments. Additional information can be obtained by going back to the main page. On the left side of the screen, click on Document Library, then click on Documents by Species, then click on the name of the species of interest to obtain General Species Information, or other documents that may be available. Click on the "Cactus" icon to view the desired document.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency will

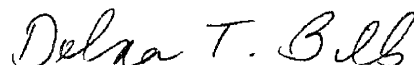
need to request formal consultation with us. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency will need to enter into a section 7 conference. The county list may also contain candidate or conservation agreement species. As mentioned, the Sonoyta mud turtle, a candidate species, occurs within the vicinity of your proposed project. Candidate species are those for which there is sufficient information to support a proposal for listing; conservation agreement species are those for which we have entered into an agreement to protect the species and its habitat. Although candidate and conservation agreement species have no legal protection under the Act, we recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat (i.e., at Quitobaquito pond), we recommend the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in the deposition of dredged or fill materials into waterways, we recommend you contact the Army Corps of Engineers, which regulates these activities under Section 404 of the Clean Water Act.

The State of Arizona and some of the Native American Tribes protect some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species, or contact the appropriate Native American Tribe to determine if sensitive species are protected by Tribal governments in your project area. We further recommend that you invite the Arizona Game and Fish Department, any Native American Tribes in or near your project area, and the Organ Pipe Cactus National Monument to participate in your informal or formal Section 7 Consultation process. We are providing this letter to the Arizona Game and Fish Department, the Tohono O'odham Tribe, and the Organ Pipe Cactus National Monument for their information.

For additional communications regarding this project, please refer to consultation number 22410-2007-SL-0337. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Erin Fernandez (x238) or Jim Rorabaugh (x230) at (520) 670-6150.

Sincerely,



for Steven L. Spangle
Field Supervisor

Mr. Eric W. Verwers

4

cc: Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Regional Supervisor, Arizona Game and Fish Department, Yuma, AZ
Regional Supervisor, Arizona Game and Fish Department, Tucson, AZ
Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ
Superintendent, Organ Pipe Cactus National Monument, Ajo, AZ
George Hutchinson, Customs and Border Protection, Washington, DC
Sector Chief, Border Patrol, Tucson, AZ
Chairperson, Tohono O'Odham Nation, Sells, AZ
Manager, Cabeza Prieta National Wildlife Refuge, Ajo, AZ

W:\Erin Fernandez\Lukeville Fence SL July 07.doc: jkey



THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT

2221 WEST GREENWAY ROAD
PHOENIX, AZ 85023-4399
(602) 942-3000 • AZGFD.GOV

REGION IV, 9140 E. 28TH ST., YUMA, AZ 85365

GOVERNOR
JANET NAPOLITANO
COMMISSIONERS
CHAIRMAN, MICHAEL M. GOLIGHTLY, FLAGSTAFF
WILLIAM H. MCLEAN, GOLD CANYON
BOB HERNBRODE, TUCSON
JENNIFER L. MARTIN, PHOENIX
ROBERT R. WOODHOUSE, ROLL
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL



July 5, 2007

Eric W. Verwers
Director, Engineering and Construction Support Office
Department of the Army
Corps of Engineers, Forth Worth District Office
P.O. Box 17300
Fort Worth, TX 76102-0300

Re: Scoping Comments Draft Environmental Assessment for Installation of 4.2 Miles of
Pedestrian Fence along the International Border near Lukeville, Pima County:

The Arizona Game and Fish Department (Department) has reviewed the request for scoping information for the above-referenced Draft Environmental Assessment (DEA) for the installation of 4.2 miles of pedestrian fence along the International Border near Lukeville, AZ in a letter dated June 4, 2007. The following comments are provided for your consideration.

The Department's online toll has been accessed and the attached document includes a list of special status species recorded in the vicinity of the project area. The document includes the Department's recommendations for minimizing impacts to and fulfilling regulatory compliance for the listed special status species

The Department notes that this fence is a potential barrier to north-south movement by reptiles, amphibians and small mammals in the project area. We recommend considering fence designs that would allow movement through the fence by these species. If this is not possible, we recommend analyzing the impacts to these species and proposing appropriate mitigation.

Thank you for the opportunity to provide these preliminary comments. The Department appreciates the opportunity to participate in this process. If you have any questions, please contact me at 928-341-4047.

Sincerely,

William C. Knowles
Habitat Specialist
Region IV, Yuma

Eric W. Verwers

July 5, 2007

2

cc: Russell Engel, Habitat Program Manager, Region IV
Rebecca Davidson, Proj. Eval. Prog. Supervisor, Habitat Branch

Attachment

AGFD # M07-06145520

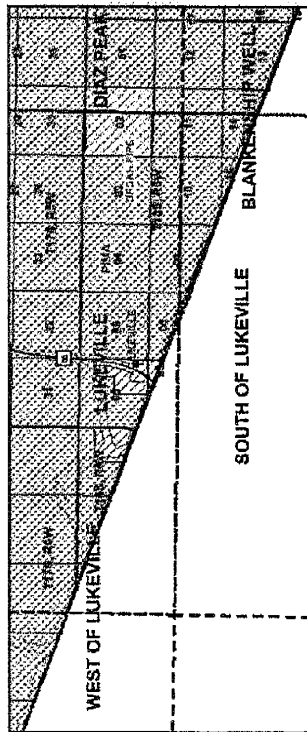
Arizona's On-line Environmental Review Tool

Search ID: 20070705003240

Project Name: Lukeville Border Fence

Date: 7/5/2007 10:58:02 AM

Project Location



Project Name: Lukeville Border Fence

Submitted By: Troy Smith

On behalf of: AZGFD

Project Search ID: 20070705003240

Date: 7/5/2007 10:57:53 AM

Project Category: Law Enforcement Activities Associated with the

Border, Fencing

Project Coordinates (UTM Zone 12-NAD 83): 328239.389, 3528543.522 meter

Project Length: 7090.034 meter

County: PIMA

USGS 7.5 Minute Quadrangle ID: 1810

Quadrangle Name: LUKEVILLE

Project locality is currently being scoped

Location Accuracy Disclaimer

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

Special Status Species Occurrences/Critical Habitat/Tribal Lands within 3 miles of Project Vicinity:

Name	Common Name	ESA	USFS	BLM	State
Anthracis calhura	Felder's Orange Tip		S		
Antilocapra americana sonoriensis	Sonoran Pronghorn	LE	S		WSC
Bat Colony					
Charina trivirgata trivirgata	Mexican Rosy Boa	SC		S	
Ferocactus emoryi	Emory's Barrel-cactus				SR
Gastrophysa olivacea	Great Plains Narrow-mouthed Toad				WSC
Gopherus agassizii (Sonoran Population)	Sonoran Desert Tortoise	SC			WSC
Lophocareus schottii	Sentia				SR
Myotis velifer	Cave Myotis	SC		S	
Pericocereus striatus	Dahlia Rooted Cereus				SR
Stenocereus thurberi	Organ Pipe Cactus				SR
Tumamoca macdougalii	Tumamoc Globeberry		S	S	SR

Arizona's On-line Environmental Review Tool

Search ID: 20070705003240

Project Name: Lukeville Border Fence

Date: 7/5/2007 10:58:02 AM

Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference. If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: <http://arizonaes.fws.gov/>.

Phoenix Main Office
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021
Phone 602-242-0210
Fax 602-242-2513

Tucson Sub-Office
201 North Bonita, Suite 141
Tucson, AZ 85745
Phone 520-670-6144
Fax 520-670-6154

Flagstaff Sub-Office
323 N. Leroux Street, Suite 101
Flagstaff, AZ 86001
Phone 928-226-0614
Fax 928-226-1099

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and

Arizona's On-line Environmental Review Tool

Search ID: 20070705003240

Project Name: Lukeville Border Fence

Date: 7/5/2007 10:58:02 AM

management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.

Project Category: Law Enforcement Activities Associated with the Border, Fencing

Project Type Recommendations:

Based on the project type entered; coordination with State Historic Preservation Office may be required
<http://www.pr.state.az.us/partnerships/shpo/shpo.html#anchor561695>

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife.

Recommendations will be dependant upon goals of the fence project and the wildlife species expected to be impacted by the project. Please

contact the Project Evaluation Program for further fencing recommendations and specifications.

Project Location and/or Species recommendations:

HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:

Ecological Services Office
US Fish and Wildlife Service

2321 W. Royal Palm Rd.
Phoenix, AZ 85021-4951
Phone: 602-242-0210
Fax: 602-242-2513

HDMS records indicate that one or more native plants listed on the Arizona Native Plant Law and Antiquities Act have been documented within the vicinity of your project area (refer to page 1 of the receipt). Please contact:

Arizona Department of Agriculture

1688 W Adams
Phoenix, AZ 85007
Phone: 602-542-4373

HDMS records indicate that Sonoran desert tortoise have been documented within the vicinity of your project area (refer to the species list on page 1 of the receipt). Please review the Tortoise Handling Guidelines found on the Environmental Review Home Page.

<http://www.azgfd.gov/hgis/guidelines.aspx>

Arizona's On-line Environmental Review Tool

Search ID: 20070705003240

Project Name: Lukeville Border Fence

Date: 7/5/2007 10:58:02 AM

Phone Number: (602) 789-3600
Fax Number: (602) 789-3928

Terms of Use

By using this site, you acknowledge that you have read and understand the terms of use. Department staff may revise these terms periodically. If you continue to use our website after we post changes to these terms, it will mean that you accept such changes. If at any time you do not wish to accept the Terms, you may choose not to use the website.

1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you will not use this website for any other purpose.
2. Unauthorized attempts to upload information or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.
3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the website and to terminate or restrict your access to the website.
4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area, location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.

Security:

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using

Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).**
7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
2221 West Greenway Road
Phoenix, Arizona 85023-4312

Arizona's On-line Environmental Review Tool

Search ID: 20070705003240

Project Name: Lukeville Border Fence

Date: 7/5/2007 10:58:02 AM

this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Further coordination requires the submittal of this Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).

Please provide point of contact information regarding this Environmental Review.

Application or organization responsible for project implementation

Agency/organization: _____

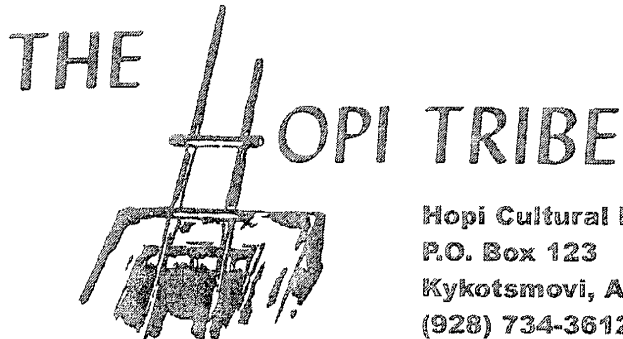
Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____



Hopi Cultural Preservation Office
P.O. Box 123
Kykotsmovi, AZ 86039
(928) 734-3612

Benjamin H. Nuvamsa
CHAIRMAN

Todd Honyaoma, Sr.
VICE-CHAIRMAN

July 2, 2007

Eric W. Verwers, Director, Engineering and Construction Support Office
Attention: Patience Patterson
Department of the Army, Fort Worth District, Corps of Engineers
P.O. Box 17300, 819 Taylor Street
Fort Worth, Texas 76102-0300

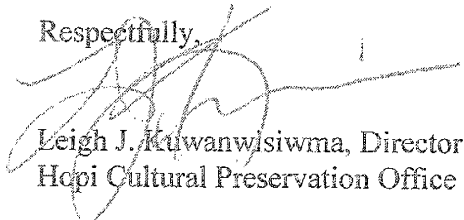
Dear Mr. Verwers,

Thank you for your letter on behalf of Customs and Border Protection dated June 8, 2007, regarding the installation of 4.2 miles of pedestrian fence along the international border near Lukeville, Arizona. The Hopi Cultural Preservation Office understands this proposal constitutes a federal undertaking and the Corps of Engineers will be preparing an environmental analysis.

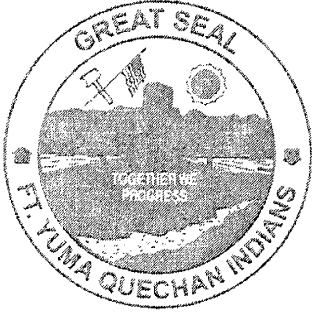
The Hopi Tribe claims cultural affiliation to prehistoric cultural groups in Arizona, and supports the identification and avoidance of archaeological sites and Traditional Cultural Properties. We understand previous cultural resources survey of the area of potential effect for this proposal identified no prehistoric cultural resources. We are not aware of any Hopi Traditional Cultural Properties in this project area. Therefore, we have determined that this proposal is unlikely to effect cultural resources significant to the Hopi Tribe.

We appreciate your continuing solicitation of our input and your efforts to address our concerns. Should you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office. Thank you again for your consideration.

Respectfully,



Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office



QUECHAN INDIAN TRIBE
Ft. Yuma Indian Reservation

P.O. Box 1899
Yuma, Arizona 85366-1899
Phone (760) 572-0213
Fax (760) 572-2102

June 25, 2007

Department of the Army
Mr. Eric Verwers
PO Box 17300
Fort Worth, TX 76102-0300

Dear Mr. Verwers,

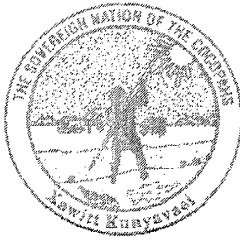
Thank you for updating us on the proposed installation of 4.2 miles of border barrier fence near the Lukeville Port of Entry.

We have reviewed the area in which the proposal takes place and have determined that there is no potential for impact on cultural resources affiliated with the Quechan Tribe. However, given the area of the project, there may be a potential impact on cultural resources affiliated with the Tohono O'odham. We support any decisions made by the tribe.

Again, thank you for your continued updates on this project. If you need any further information or have any questions, please contact me at (760) 572-2423.

Sincerely,

Bridget R. Nash-Chrabasz
Historic Preservation Officer



THE COCOPAH INDIAN TRIBE

Cultural Resource Department

County 15th & Avenue G

Somerton, Arizona 85350

Telephone (928) 627-2102

Fax (928) 627-3173

June 19, 2007

H. Jill McCormick
Cocopah Tribe
County 15 & Avenue G
Somerton, AZ 85350
928-503-2291

Eric W. Verwers
Department of the Army
Fort Worth District, Corps of Engineers
P.O. Box 17300, 819 Taylor Street
Fort Worth, Texas 76102-0300

RE: Environmental Assessment for the installation of 4.2 miles of Pedestrian Fence
along the International Border near Lukeville, Arizona

The Cultural Resources Department of the Cocopah Indian Tribe appreciates your consultation efforts on this project. We are pleased that you contacted the Cocopah Tribe on this cultural resource issue for the purpose of solicitation of our input and to address our concerns on this matter. However, at this time we wish to make no comments on the development of the project, although we would like to continue to be a part of any consultation process in the future.

If you have any questions or need additional information please feel free to contact the cultural resource department. We will be happy to assist you with any and all future concerns or questions.

Sincerely,

H. Jill McCormick

Cultural Resource Manager



REPLY TO
ATTENTION OF

SHPO-2007-1173 (33482)
DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

JUN 19 2007
6:12:57 PM

June 8, 2007

Engineering and Construction Support Office

SUBJECT: Environmental Assessment for the Installation of 4.2 miles of Pedestrian Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Arizona

Mr. James Garrison, State Historic Preservation Officer
ATTN: Ms. JoAnne Medley
Arizona State Parks
1300 West Washington
Phoenix, Arizona 85007

Dear Mr. Garrison:

While no final decisions on the fence locations have been made, the U.S. Army Corps of Engineers, Fort Worth District (USACE) on behalf of Customs and Border Protection (CBP) intends to prepare an Environmental Assessment (EA) to address the feasibility of installing and maintaining approximately 4.2 miles of border barrier fence.

Based on congressional and executive mandates, CBP is assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 4.2 miles of barrier fence will be installed. This effort is a prudent part of the planning process needed to assess any environmental concerns.

The potential project would consist of replacing 4.2 miles of vehicle barriers with border fence. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north). The proposed border fence would begin 2.1 miles west of the Lukeville Port of Entry (POE) and extend eastward along the U.S.-Mexico border for 4.2 miles. Attached is a portion of the Lukeville 7.5 minute USGS quadrangle, which identifies the possible project site.

Previous cultural resource investigations and their Section 106 compliance have been accomplished by the Organ Pipe Cactus National Monument for their permanent vehicle barrier project. Therefore, no cultural resources surveys will be conducted, as the potential areas of impact are replacement and will be situated in the cleared area.


If you have any questions, please feel free to contact Ms. Patience Patterson, RPA (817) 886-1723 or Assistant Chief Patrol Agent Craig Weinbrenner at the Office of Border Patrol, Tucson Sector (520) 748-3000.

Sincerely,



Eric W. Verwers
Director, Engineering and Construction
Support Office

Enclosures

for 
No Historic Properties Affected
Arizona State Historic Preservation Officer
Arizona State Parks Board
July 5, 2007



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300, 819 TAYLOR STREET
FORT WORTH, TEXAS 76102-0300

June 8, 2007

Engineering and Construction Support Office

SUBJECT: Environmental Assessment for the Installation of 4.2 miles of Pedestrian Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Arizona

Honorable Delia Carlisle, Chairperson
ATTN: Ms. Nancy Nelson, Cultural Resources Manager
Ak Chin Indian Community
47685 N Eco Museum Rd
Maricopa, AZ 85239

Dear Chairperson Carlisle:

While no final decisions on the fence locations have been made, the U.S. Army Corps of Engineers, Fort Worth District (USACE) on behalf of Customs and Border Protection (CBP) intends to prepare an Environmental Assessment (EA) to address the feasibility of installing and maintaining approximately 4.2 miles of border barrier fence.

Based on congressional and executive mandates, CBP is assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 4.2 miles of barrier fence will be installed. This effort is a prudent part of the planning process needed to assess any environmental concerns.

The potential project would consist of replacing 4.2 miles of vehicle barriers with border fence. The construction foot print for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north). The proposed border fence would begin 2.1 miles west of the Lukeville Port of Entry (POE) and extend eastward along the U.S.-Mexico border for 4.2 miles. Attached is a portion of the Lukeville 7.5 minute USGS quadrangle, which identifies the possible project site.

Previous cultural resource investigations and their Section 106 compliance have been accomplished by the Organ Pipe Cactus National Monument for their permanent vehicle barrier project. Therefore, no cultural resources surveys will be conducted, as the potential areas of impact are replacement and will be situated in the cleared area.

If you have any questions or comments regarding Traditional Cultural Places or Sacred Sites in or very near the project area, please call Ms. Patience Patterson, RPA at 817-886-1723 or Assistant Chief Patrol Agent Craig Weinbrenner at the Office of Border Patrol, Tucson Sector (520) 748-3000.

Sincerely,

A handwritten signature in dark ink, appearing to read "Eric W. Verwers". The signature is fluid and cursive, with the first name "Eric" being more prominent.

Eric W. Verwers
Director, Engineering and Construction
Support Office

Enclosures

Copy Furnished w/ enclosure

Mr. James Garrison, State Historic Preservation Officer
ATTN: Ms. JoAnne Medley
Arizona State Parks
1300 West Washington
Phoenix, Arizona 85007

Distribution List for Tribal Consultation on the Lukeville fence Project

Honorable Delia Carlisle, Chairperson

ATTN: Ms. Nancy Nelson, Cultural Resources Manager (Acting)

Ak Chin Indian Community

47685 N Eco Museum Rd

Maricopa, AZ 85239

520-568-1369

Honorable Sherry Cordova, Chairperson

ATTN: Ms Jill McCormick

Cocopah Tribe

County 15th & Avenue G

Somerton, AZ 85350

Honorable Daniel Eddy, Jr., Chairman

ATTN: Mr. E. George Ray, Director Museum

Colorado River Indian Tribes

Route 1, Box 23-B

Parker, AZ 85344

Honorable William Rhodes, Governor

ATTN: Mr. Barnaby Lewis

Gila River Indian Community

Cultural Resources Management Program

P.O. Box 2140

Sacaton, AZ 85247

Honorable Benjamin H. Nuvamsa, Chairman

ATTN: Leigh Kuwanwisiwma

The Hopi Tribe

Main Street

Kykotsmovi, AZ 86039

(928) 734-3612

Honorable Hermnia Frias, Chairperson

ATTN: Ms. Amalia A.M. Reyes, Cultural Resources

Pascua Yaqui Tribe

7474 S Camino de Oeste

Tucson, AZ 85746

Honorable Mike Jackson, Jr., President

Quechan Tribe

ATTN: Ms. Pauline Jose

Fort Yuma-Quechan Tribal Museum

350 Pichcho Rd

Winterhaven, CA

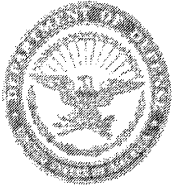
Distribution List for Tribal Consultation on the Lukeville-Ajo Fence Project

Honorable Joni Ramos, President
ATTN: Ms. Dezbah Hatathli, Cultural Programs Supervisor
Salt River Pima-Maricopa Indian Community
Cultural and Environmental Services Department
10005 E. Osborn
Scottsdale, AZ 85256

Honorable Wendsler Nosie, Sr., Chairperson
ATTN: Ms. Vernelda Grant, THPO
San Carlos Apache Tribe
P.O. Box 0
San Carlos, AZ 85550

Honorable Ned Norris, Jr., Chairman
ATTN: Mr. Peter Steere, Cultural Resources Manager
Tohono O'odham Nation
Cultural Affairs Department
Main Street
Sells, AZ 85634

Honorable Ronnie Lupe, Chairman
ATTN: Mr. Mark Atalha, THPO
White Mountain Apache Tribe
P.O. Box 507
Fort Apache, AZ 85926



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

June 4, 2007

Engineering and Construction Support Office

Environmental Assessment for the Installation of 4.2 miles of Pedestrian Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Arizona

Arizona Game and Fish
Habitat Branch-Project Evaluation Program
Attn: Mr. Bob Broscheid, Project Evaluation Program Supervisor
2221 West Greenway Road
Phoenix, Arizona 85023

Dear Mr. Broscheid:

While no final decisions on the fence locations have been made, the U.S. Army Corps of Engineers, Fort Worth District (USACE) on behalf of Customs and Border Protection (CBP) intends to prepare an Environmental Assessment (EA) to address the feasibility of installing and maintaining 4.2 miles of border barrier fence.

Based on congressional and executive mandates, CBP is assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 4.2 miles of barrier fence will be installed. This effort is a prudent part of the planning process needed to assess any environmental concerns.

This potential project would consist of replacing 4.2 miles of vehicle barriers with border fence. The construction footprint for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north). The proposed border fence would begin 2.1 miles west of the Lukeville Port of Entry and extend eastward along the U.S. - Mexico border for 4.2 miles. Attached is a portion of the Lukeville 7.5 minute U.S.G.S. quadrangle, which identifies the possible project site.

We are currently in the process of gathering the most current information available regarding Federally and state listed species, cultural resources, and sensitive and unique areas occurring within the potential project area. We respectfully request that your agency provide any information regarding those resources and/or issues that you believe may be affected.

Your prompt attention to this request would be greatly appreciated. If you have any

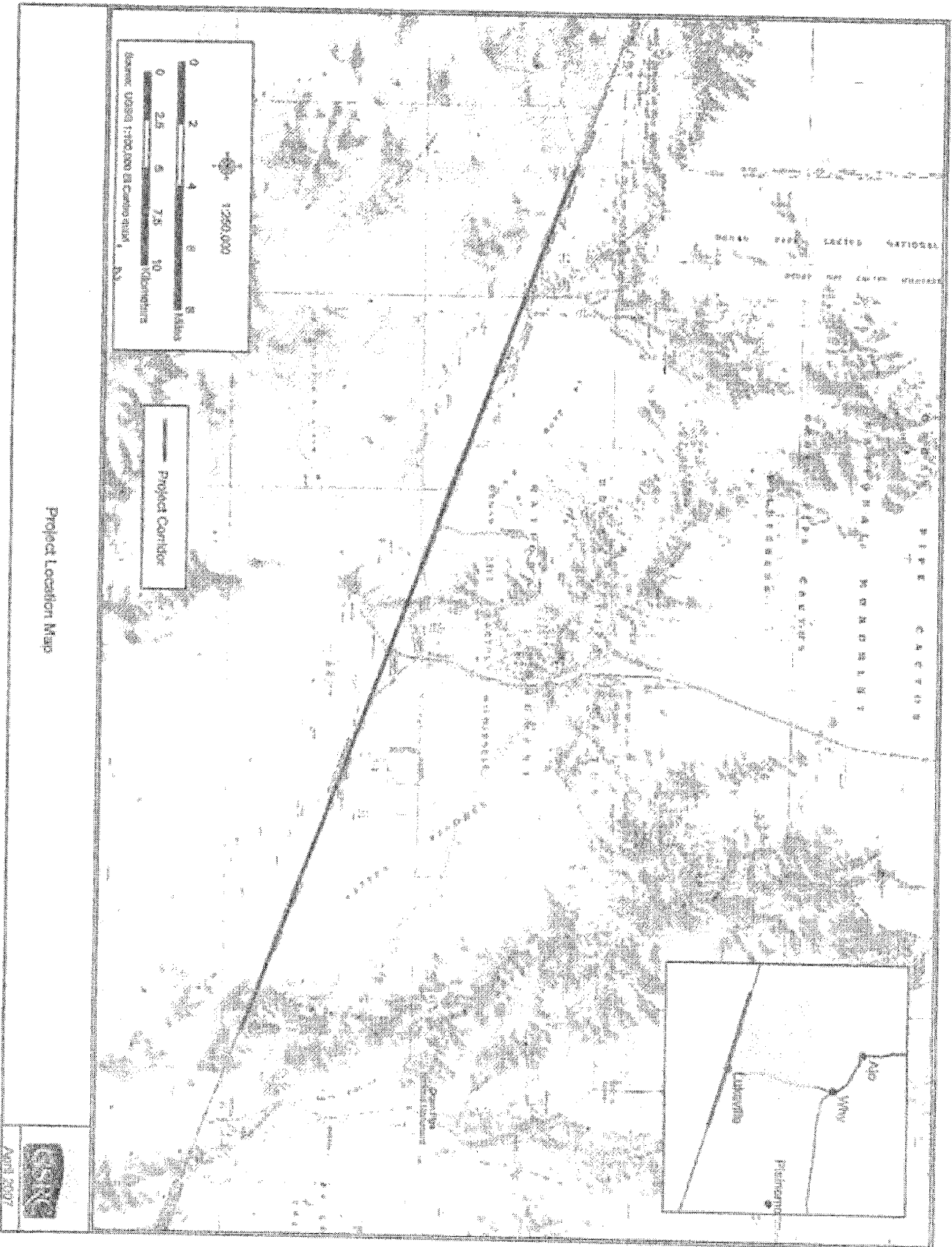
-2-

questions, please call Mr. Charles McGregor of my staff at (817) 886-1585 or Assistant Chief Patrol Agent Craig L. Weinbrenner at the Office of Border Patrol Tucson Sector at (520) 748-3000

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers". The signature is fluid and cursive, with a long horizontal stroke at the end.

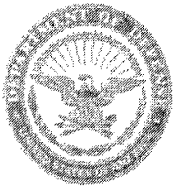
Eric W. Verwers
Director, Engineering and
Construction Support Office



Project Location Map



April 2007



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

June 4, 2007

Engineering and Construction Support Office

Environmental Assessment for the Installation of 4.2 miles of Pedestrian Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Arizona

National Park Service
ATTN: Ms. Kathy Billings
Organ Pipe Cactus National Monument
10 Organ Pipe Drive
Ajo, AZ 85321

Dear Ms. Billings:

While no final decisions on the fence locations have been made, the U.S. Army Corps of Engineers, Fort Worth District (USACE) on behalf of Customs and Border Protection (CBP) intends to prepare an Environmental Assessment (EA) to address the feasibility of installing and maintaining 4.2 miles of border barrier fence.

Based on congressional and executive mandates, CBP is assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 4.2 miles of barrier fence will be installed. This effort is a prudent part of the planning process needed to assess any environmental concerns.

This potential project would consist of replacing 4.2 miles of vehicle barriers with border fence. The construction footprint for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north). The proposed border fence would begin 2.1 miles west of the Lukeville Port of Entry and extend eastward along the U.S. - Mexico border for 4.2 miles. Attached is a portion of the Lukeville 7.5 minute U.S.G.S. quadrangle, which identifies the possible project site.

We are currently in the process of gathering the most current information available regarding Federally and state listed species, cultural resources, and sensitive and unique areas occurring within the potential project area. We respectfully request that your agency provide any information regarding those resources and/or issues that you believe may be affected.

Your prompt attention to this request would be greatly appreciated. If you have any

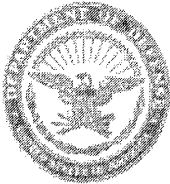
-2-

questions, please call Mr. Charles McGregor of my staff at (817) 886-1585 or Assistant Chief Patrol Agent Craig L. Weinbrenner at the Office of Border Patrol Tucson Sector at (520) 748-3000

Sincerely,

A handwritten signature in dark ink, appearing to read "Eric W. Verwers". The signature is fluid and cursive, with the first name "Eric" and last name "Verwers" being clearly distinguishable.

Eric W. Verwers
Director, Engineering and
Construction Support Office



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

June 4, 2007

Engineering and Construction Support Office

Environmental Assessment for the Installation of 4.2 miles of Pedestrian Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Arizona

Cabeza Prieta National Wildlife Refuge
ATTN: Mr. Roger DiRosa, Refuge Manager
1611 N. Second Ave
Ajo, AZ 85321

Dear Mr. DiRosa:

While no final decisions on the fence locations have been made, the U.S. Army Corps of Engineers, Fort Worth District (USACE) on behalf of Customs and Border Protection (CBP) intends to prepare an Environmental Assessment (EA) to address the feasibility of installing and maintaining 4.2 miles of border barrier fence.

Based on congressional and executive mandates, CBP is assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 4.2 miles of barrier fence will be installed. This effort is a prudent part of the planning process needed to assess any environmental concerns.

This potential project would consist of replacing 4.2 miles of vehicle barriers with border fence. The construction footprint for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north). The proposed border fence would begin 2.1 miles west of the Lukeville Port of Entry and extend eastward along the U.S. - Mexico border for 4.2 miles. Attached is a portion of the Lukeville 7.5 minute U.S.G.S. quadrangle, which identifies the possible project site.

We are currently in the process of gathering the most current information available regarding Federally and state listed species, cultural resources, and sensitive and unique areas occurring within the potential project area. We respectfully request that your agency provide any information regarding those resources and/or issues that you believe may be affected.

Your prompt attention to this request would be greatly appreciated. If you have any

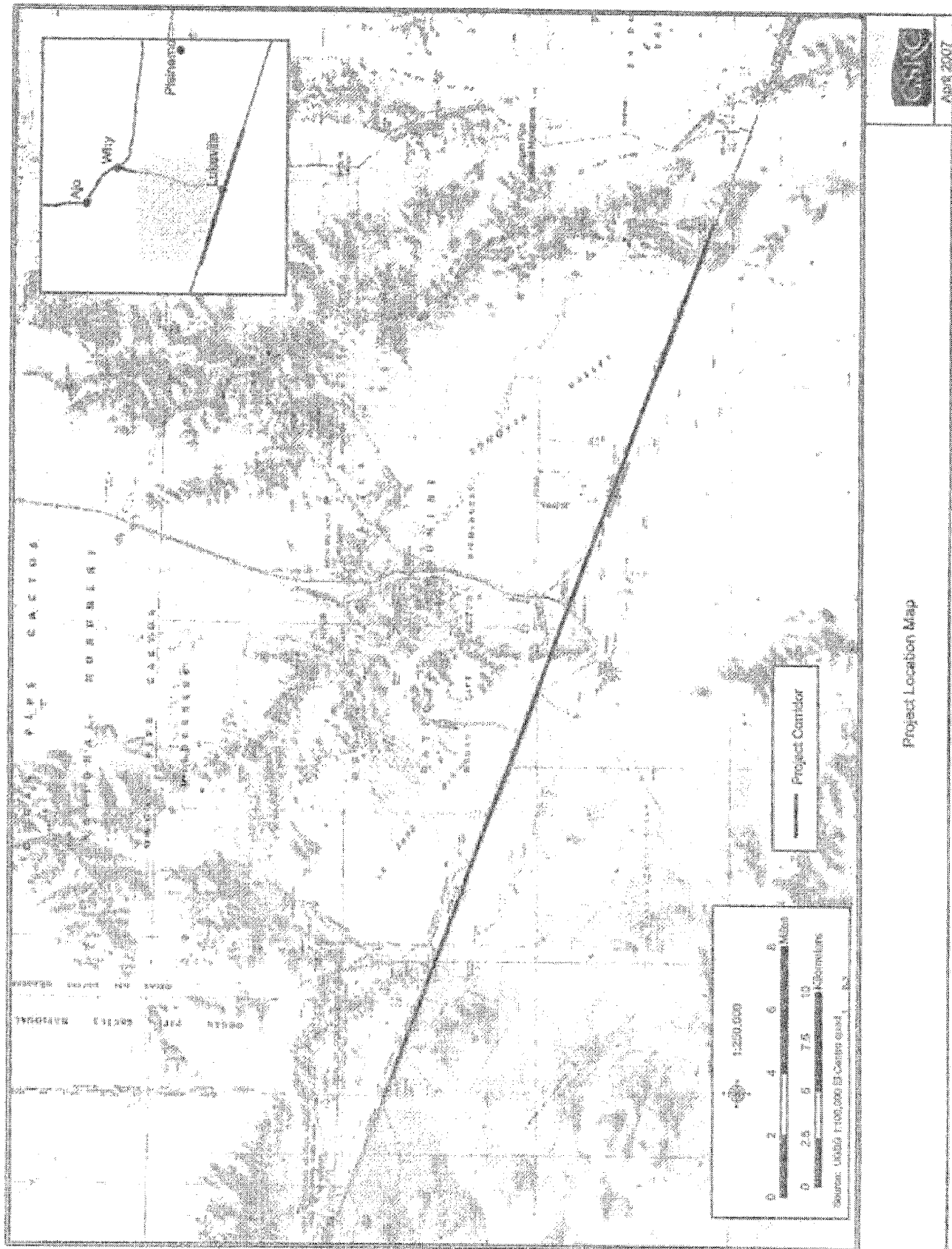
-2-

questions, please call Mr. Charles McGregor of my staff at (817) 886-1585 or Assistant Chief Patrol Agent Craig L. Weinbrenner at the Office of Border Patrol Tucson Sector at (520) 748-3000

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers". The signature is fluid and cursive, with a long horizontal stroke at the end.

Eric W. Verwers
Director, Engineering and
Construction Support Office



Project Location Map



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

June 4, 2007

Engineering and Construction Support Office

Environmental Assessment for the Installation of 4.2 miles of Pedestrian Fence along the International Border near Lukeville, Arizona, Office of Border Patrol Tucson Sector, Arizona

U.S. Fish and Wildlife Service
ATTN: Mr. Steve Spangle
Arizona Ecological Services
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021

Dear Mr. Spangle:

While no final decisions on the fence locations have been made, the U.S. Army Corps of Engineers, Fort Worth District (USACE) on behalf of Customs and Border Protection (CBP) intends to prepare an Environmental Assessment (EA) to address the feasibility of installing and maintaining 4.2 miles of border barrier fence.

Based on congressional and executive mandates, CBP is assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 4.2 miles of barrier fence will be installed. This effort is a prudent part of the planning process needed to assess any environmental concerns.

This potential project would consist of replacing 4.2 miles of vehicle barriers with border fence. The construction footprint for this potential project would encompass the entire Roosevelt Reservation (60 feet from the U.S.-Mexico border north). The proposed border fence would begin 2.1 miles west of the Lukeville Port of Entry and extend eastward along the U.S. - Mexico border for 4.2 miles. Attached is a portion of the Lukeville 7.5 minute U.S.G.S. quadrangle, which identifies the possible project site.

We are currently in the process of gathering the most current information available regarding Federally and state listed species, cultural resources, and sensitive and unique areas occurring within the potential project area. We respectfully request that your agency provide any information regarding those resources and/or issues that you believe may be affected.

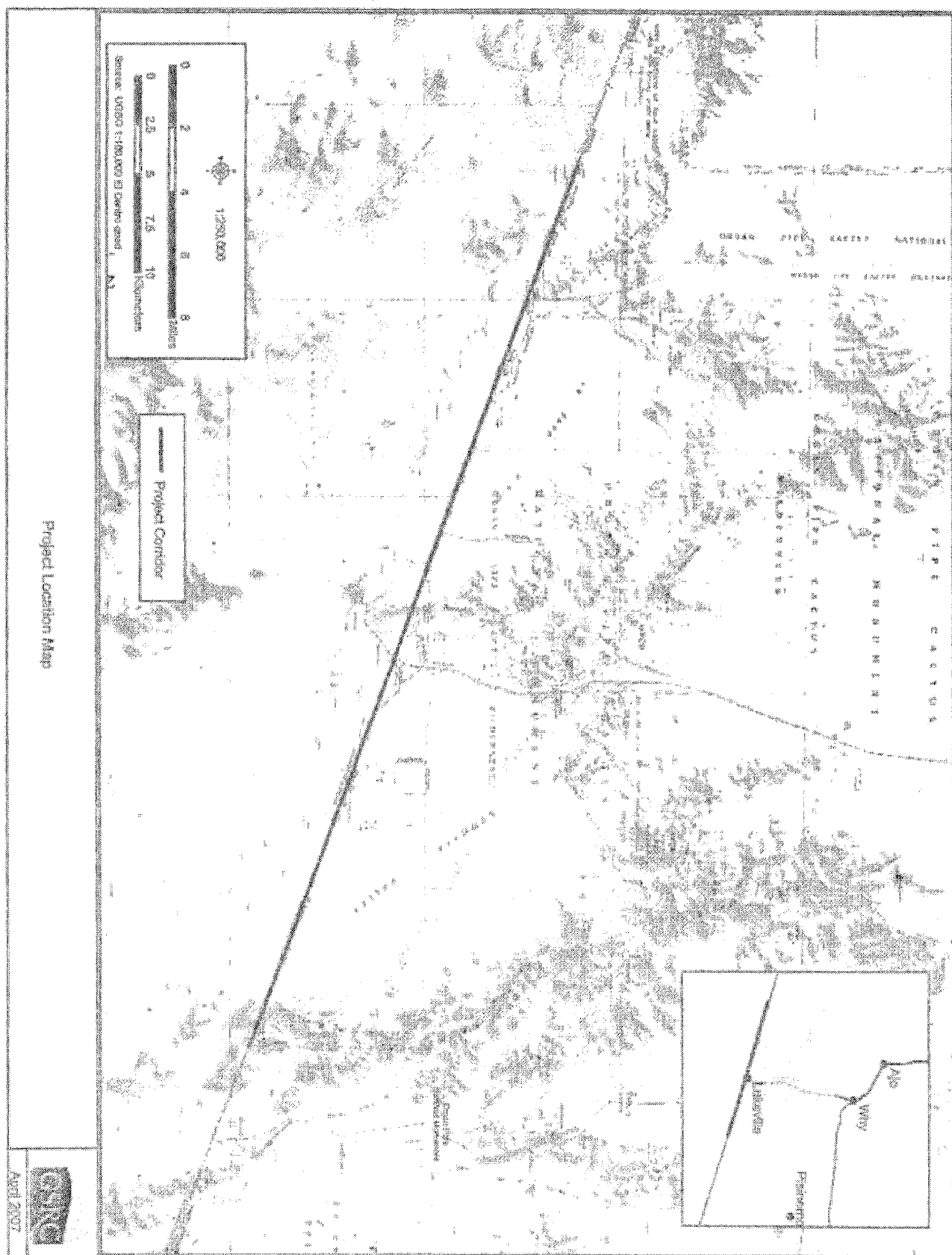
Your prompt attention to this request would be greatly appreciated. If you have any

questions, please call Mr. Charles McGregor of my staff at (817) 886-1585 or Assistant Chief Patrol Agent Craig L. Weinbrenner at the Office of Border Patrol Tucson Sector at (520) 748-3000

Sincerely,

A handwritten signature in black ink, appearing to read "Eric W. Verwers". The signature is fluid and cursive, with a long horizontal stroke at the end.

Eric W. Verwers
Director, Engineering and
Construction Support Office



APPENDIX D
Air Quality Calculations

CALCULATION SHEET-COMBUSTABLE EMISSIONS-PROPOSED ACTION

Assumptions for Combustable Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	2	300	12	120	864000
Diesel Road Compactors	0	100	12	120	0
Diesel Dump Truck	0	300	12	120	0
Diesel Excavator	0	300	12	120	0
Diesel Hole Cleaners/Trenchers	2	175	12	120	504000
Diesel Bore/Drill Rigs	2	300	12	120	864000
Diesel Cement & Mortar Mixers	2	300	12	120	864000
Diesel Cranes	2	175	12	120	504000
Diesel Graders	0	300	12	120	0
Diesel Tractors/Loaders/Backhoes	2	100	12	120	288000
Diesel Bull Dozers	2	300	12	120	864000
Diesel Front End Loaders	2	300	12	120	864000
Diesel Fork Lifts	3	100	12	120	432000
Diesel Generator Set	6	40	12	120	345600

Emission Factors							
Type of Construction Equipment	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO2 g/hp-hr	CO2 g/hp-hr
Water Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Road Compactors	0.370	1.480	4.900	0.340	0.330	0.740	536.200
Diesel Dump Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Excavator	0.340	1.300	4.600	0.320	0.310	0.740	536.300
Diesel Trenchers	0.510	2.440	5.810	0.460	0.440	0.740	535.800
Diesel Bore/Drill Rigs	0.600	2.290	7.150	0.500	0.490	0.730	529.700
Diesel Cement & Mortar Mixers	0.610	2.320	7.280	0.480	0.470	0.730	529.700
Diesel Cranes	0.440	1.300	5.720	0.340	0.330	0.730	530.200
Diesel Graders	0.350	1.360	4.730	0.330	0.320	0.740	536.300
Diesel Tractors/Loaders/Backhoes	1.850	8.210	7.220	1.370	1.330	0.950	691.100
Diesel Bull Dozers	0.360	1.380	4.760	0.330	0.320	0.740	536.300
Diesel Front End Loaders	0.380	1.550	5.000	0.350	0.340	0.740	536.200
Diesel Fork Lifts	1.980	7.760	8.560	1.390	1.350	0.950	690.800
Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810	587.300

CALCULATION SHEET-COMBUSTABLE EMISSIONS-PROPOSED ACTION

Emission factors (EF) were generated from the NONROAD2005 model for the 2006 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2005 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2005 model is based on the population in U.S. for the 2006 calendar year.

Emission Calculations							
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO2 tons/yr	CO2 tons/yr
Water Truck	0.419	1.971	5.227	0.390	0.381	0.705	510.341
Diesel Road Paver	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Dump Truck	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Excavator	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Hole Cleaners/Trenchers	0.283	1.355	3.227	0.255	0.244	0.411	297.588
Diesel Bore/Drill Rigs	0.571	2.180	6.808	0.476	0.467	0.695	504.342
Diesel Cement & Mortar Mixers	0.581	2.209	6.931	0.457	0.448	0.695	504.342
Diesel Cranes	0.244	0.722	3.177	0.189	0.183	0.405	294.477
Diesel Graders	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Tractors/Loaders/Backhoes	0.587	2.606	2.291	0.435	0.422	0.302	219.339
Diesel Bull Dozers	0.343	1.314	4.532	0.314	0.305	0.705	510.626
Diesel Front End Loaders	0.362	1.476	4.761	0.333	0.324	0.705	510.531
Diesel Aerial Lifts	0.943	3.694	4.075	0.662	0.643	0.452	328.865
Diesel Generator Set	0.461	1.432	2.274	0.278	0.270	0.308	223.674
Total Emissions	4.794	18.959	43.303	3.790	3.686	5.383	3904.125

Conversion factors	
Grams to tons	1.102E-06

CALCULATION SHEET-COMBUSTABLE EMISSIONS-PROPOSED ACTION

Proposed Action Construction Emissions for Criteria Pollutants (tons per year)						
Emission source	VOC	CO	NOx	PM-10	PM-2.5	SO ₂
Combustable Emissions	4.79	18.96	43.30	3.79	3.69	5.38
Construction Site-fugitive PM-10	NA	NA	NA	29.12	5.82	NA
Construction Workers Commuter & Trucking	0.48	4.53	0.62	0.01	0.01	NA
Total emissions	5.28	23.49	43.93	32.92	9.52	5.38
De minimis threshold	NA	NA	NA	NA	NA	NA

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS-PROPOSED ACTION

Construction WorkerPersonal Vehicle Commuting to Construction Sight-Passenger and Light Duty Trucks									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	120	120	10	10	0.22	0.26	0.47
CO	12.4	15.7	120	120	10	10	1.97	2.49	4.46
NOx	0.95	1.22	120	120	10	10	0.15	0.19	0.34
PM-10	0.0052	0.0065	120	120	10	10	0.00	0.00	0.00
PM 2.5	0.0049	0.006	120	120	10	10	0.00	0.00	0.00

-

Heavy Duty Trucks Delivery Supply Trucks to Construction Sight									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	10,000-19,500 lb Delivery Truck	33,000-60,000 lb semi trailer rig	Mile/day	Day/yr	Number of trucks	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	60	120	2	2	0.00	0.01	0.01
CO	1.32	3.21	60	120	2	2	0.02	0.05	0.07
NOx	4.97	12.6	60	120	2	2	0.08	0.20	0.28
PM-10	0.12	0.33	60	120	2	2	0.00	0.01	0.01
PM 2.5	0.13	0.36	60	120	2	2	0.00	0.01	0.01

OBP Commute to New Site									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	60	0	0	0	-	0.00	-
CO	12.4	15.7	60	0	0	0	-	0.00	-
NOx	0.95	1.22	60	0	0	0	-	0.00	-
PM-10	0.0052	0.0065	60	0	0	0	-	0.00	-
PM 2.5	0.0049	0.006	60	0	0	0	-	0.00	-

POV Source: USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway vehicle emission factor model.

Fleet Charactorization: 20 POVs commuting to work were 50% are pick up trucks and 50% passenger cars

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS-PROPOSED ACTION

Conversion factor:	gms to tons
	0.000001102

CALCULATION SHEET-FUGITIVE DUST-PROPOSED ACTION

Fugitive Dust Emissions at New Construction Site.					
Construction Site	Emission Factor tons/acre/month (1)	Total Area- Construction Site/month	Months/yr	Total PM-10 Emissions tns/yr	Total PM-2.5 (2)
Fugitive Dust Emissions	0.11	37.82	7	29.12	5.82

1. Mid-Atlantic Regional Air Management Association (MARAMA). Fugitive Dust-Construction Calculation Sheet can be found online at: http://www.marama.org/visibility/Calculation_Sheets/. MRI= Midwest Research Institute, Inventory of Agricultural Tiling, Unpaved Roads, Airstrips and construction Sites., prepared for the U.S. EPA, PB 238-929, Contract 68-02-1437 (November 1977)

2. 20% of the total PM-10 emissions are PM-2.5 (EPA 2006).

Coastruction Site Area	Demension (ft)			
Proposed Prioject	Length	Width	Units	Total Acres
New Construction Area	5,280	60	5.2	37.82
New Construction Area	5,280	60	0	0.00
Total				37.82

Conversion Factors	Feet to Miles	Acres to sq ft	Sq ft to acres	Sq ft in 0.5 acres
	5280	0.000022957	43560	21780

Assumptions	Sections/day	Length of Section (ft)	Length/day (ft)	Days/yr	Length/yr (ft)	Miles/yr
Fencing installed per day (ft)	22	10	220	290	63800	5.20

Assumptions	Sections/day	Length of Section (ft)	Length/day (ft)	Days/Month	Length/Month (ft)	Miles/Month
Fencing installed per day (ft)	22	10	220	24	5280	1.00
Length of fence/yr (miles)	5.20					