# FINDING OF NO SIGNIFICANT IMPACT

## PORTABLE LIGHTS WITHIN THE NACO CORRIDOR
## COCHISE COUNTY, ARIZONA

**PURPOSE AND OBJECTIVE:** The primary purpose of the proposed action is to enhance the detection of illegal activities and significantly enhance the USBP's ability to gain and maintain control of the border. A secondary purpose of the operation is to increase safety for the USBP agents during their efforts to apprehend illegal entrants at night.

**PROPOSED ACTION:** The proposed action would include the acquisition and intermittent operation of approximately 30 to 50 portable lights. These lights would be deployed anywhere within the 10.5-mile corridor along the U.S./Mexico border, three miles to the east and 7.5 miles to the west of the port-of-entry (POE) at Naco, on an as needed basis. Approximately 200 sites, spaced about 350 feet apart along the 10.5-mile corridor, have been designated for light placement, when needed.

**ALTERNATIVES:** Alternatives addressed in the EA include no action and the proposed action described above. Another alternative evaluated was the installation of permanent lighting. This alternative would involve the installation of 202 permanent lighting systems along the US/Mexico border, one light pole for each of the 202 designated light sites. Permanent lights consist of stadium-type lights on approximately 30-foot poles with two to four lights per pole.

An Environmental Assessment (EA) was prepared in 2000 for the Immigration and Naturalization Service (INS) and USBP to address infrastructure improvements within the USBP Naco-Douglas Corridor, Cochise County, Arizona. The 2000 EA identified the placement and use of portable lights in the Naco area a potential future project. This EA for the proposed action is tiered from the 2000 EA in accordance with the President's Council on Environmental Quality's Regulations for implementing the National Environmental Policy Act of 1969.

**ENVIRONMENTAL CONSEQUENCES:** No significant adverse affects to the natural or human environment are expected upon implementation of the proposed action. In addition, no adverse effects to cultural resources are expected.

**MITIGATION MEASURES:** Environmental design measures to be implemented for the proposed action include positioning lights to allow for dark areas, periodically relocating lights along the corridor, avoiding the placement of light generators near arroyos, installing shields around the lamps to prevent backlighting, and placing secondary containment pans underneath the generators to prevent any contamination from accidental spills. Existing roads would be used for transport and placement of lights; however, if vegetation clearing is required for the placement of portable lights, only hand clearing methods will be used.

Based upon the results of the EA and the environmental design measures to be incorporated as part of the proposed action, it has been concluded that the proposed action will not have a significant adverse effect on the environment. Anyone having comments regarding this action should contact Mr. Kevin Feeney, INS Headquarters, Facilities and Engineering Division, at (202) 353-9412. Or, write to Mr. Feeney at INS, Facilities and Engineering Division, 425 I Street Northwest, Room 2080, Washington, D.C. 20536.

Rufus Johnson
Acting Director, Office of Administration
Headquarters Facilities and Engineering Division

12/13/01
Date

## EXECUTIVE SUMMARY

| | |
|---|---|
| PROPOSED ACTION: | The proposed action would include the acquisition and the intermittent operation of approximately 30 to 50 portable lights. These proposed lights would be deployed anywhere along the 10.5-mile corridor along the US/Mexico border, three miles to the east and 7.5 miles to the west of the POE at Naco, on an as needed basis. A total of 202 sites, along the 10.5-mile corridor, have been designated for light placement, when needed. |
| PURPOSE AND NEED FOR THE PROPOSED ACTION: | The primary purpose of the proposed action would be to maximize the deterrent enforcement capability of the USBP and facilitate the desired level of border control by effecting a permanent state of deterrence through certainty of detection and apprehension. The need for the proposed project is a result of developing trends such as urbanization and industrialization of the immediate border, environmental preservation concerns, and increases in trans-boundary criminal activities, which continue to pose a border enforcement challenge and compound the need for tactical infrastructure. |
| ALTERNATIVES TO THE PROPOSED ACTION: | Alternatives addressed in the EA include no action and an alternative to install permanent lights. The no action alternative, border conditions and would remain the same as they are now. The latter alternative would involve the installation of approximately 160 permanent lighting systems along the US/Mexico border, one light pole approximately every 350 feet along the 10.5-mile corridor. Permanent lights consist of stadium-type lights on approximately 30-foot poles with two to four lights per pole. Light bulbs can range from 400 to 1,000 watts. Two types of poles would be considered for the project: wooden poles, encased in concrete and steel culverts (to prevent them from being cut down), would most often be used, or steel poles with concrete footings may also be used. |
| ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION: | No significant adverse effects to the natural or human environment are expected upon implementation of the proposed action. In addition, no adverse effects to cultural resources are expected. |
| CONCLUSIONS: | Based upon the results of the EA and the environmental design measures to be incorporated as part of the proposed action, it has been concluded that the proposed action would not have a significant adverse effect on the environment. |

# FINAL ENVIRONMENTAL ASSESSMENT

# PORTABLE LIGHTS WITHIN THE NACO CORRIDOR

# COCHISE COUNTY, ARIZONA

**December 2001**

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Lead Agency:

Environmental Officer:
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# SECTION 1.0
# INTRODUCTION

# 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 portable light systems near Naco, Arizona by the Immigration and Naturalization Service (INS), U.S. Border Patrol (USBP). This EA evaluates the acquisition and operation of approximately 30 to 50 portable light systems within a 10.5-mile corridor along the U.S.-Mexico border.

These improvements have been proposed by USBP in an effort to enhance the USBP's capability to gain, maintain, and extend control of the U.S.-Mexico border. The work outlined is to be conducted in accordance with and in partial fulfillment of the INS and U.S. Army Corps of Engineers (USACE) obligations under the National Historical Preservation Act of 1966, as amended (PL-96-515), the Archaeological and Historical Preservation Act of 1974, as amended (PL-93-291), the National Environmental Policy Act of 1969 (PL-90-190), Executive Order #11593, "Protection and Enhancement of the Cultural Environment", and the Endangered Species Act of 1973, as amended.

This document was tiered from the Environmental Assessment completed for U.S. Border Patrol's infrastructure along the Naco-Douglas corridor in Cochise County, Arizona (INS 2000). That EA was prepared in 2000 for the INS to address potential impacts of previous, current, and future projects that facilitate USBP's mission to deter the illegal entry of undocumented aliens into the U.S. and reduce illegal drug activity along the U.S.-Mexico border. The 2000 EA also addressed the cumulative effects of past and reasonably foreseeable projects in the corridor and identified the action proposed herein as a potential future project in the Naco area.

## 1.2 Background

### 1.2.1 INS Organization

The INS has the responsibility to regulate and control immigration into the United States. In 1924, the U.S. Congress created the USBP to be the law enforcement arm of the INS. The USBP's primary function is to detect and deter the unlawful entry of aliens and

smuggling along the nation's land borders and between the ports-of-entry (POE). With the increase in illegal drug trafficking, the USBP also has become the leader for drug interdiction between land POEs. Since 1980, an average of 150,000 immigrants have been naturalized every year. At the same time, however, illegal aliens have become a significant issue. INS apprehension rates are currently averaging more than 1.5 million illegal aliens throughout the country. The INS estimates that there are currently three to six million illegal aliens in the United States. Other studies have indicated higher numbers, closer to 10 million.

### 1.2.2 Tucson Sector

The mission of the USBP Tucson Sector is to protect the U.S.-Mexico boundary in Arizona through the detection and prevention of smuggling and illegal entry of aliens into the United States. The Tucson Sector encompasses all or parts of Cochise, Pima, Pinal, Maricopa, Yavapai, Navajo, Apache, Gila, Graham, Greenlee, Coconino, and Santa Cruz counties (Figure 1-1). The Tucson Sector is responsible for approximately 280 miles of the U.S.-Mexico border, most of which are remote and rugged lands, particularly along the Naco-Douglas corridor.

The Tucson Sector uses a variety of methods to detect and deter undocumented aliens (UDAs) and illegal drug traffickers. Deterrence is accomplished through the actual presence (24 hours per day, seven days per week) of the USBP agents on the border, fences and other physical barriers (natural and man-made), lighting (both permanent and portable lights), and the knowledge that the illegal entrants will be detected and apprehended. Detection of the UDAs and illegal traffickers is accomplished through a variety of low technology and high-technology resources. These include observing physical signs of illegal entry (vehicle tracks and footprints, clothes, etc.), visual observation of the illegal entries from the ground or from aerial reconnaissance, information provided by private landowners or the general public, ground sensors, and remote video surveillance (RVS) systems.

The Tucson Sector is currently employing a border enforcement program, called Operation Safeguard, in an effort to gain, maintain, and extend control of the Arizona border, as directed by the President's National Drug Control Strategy. Operation

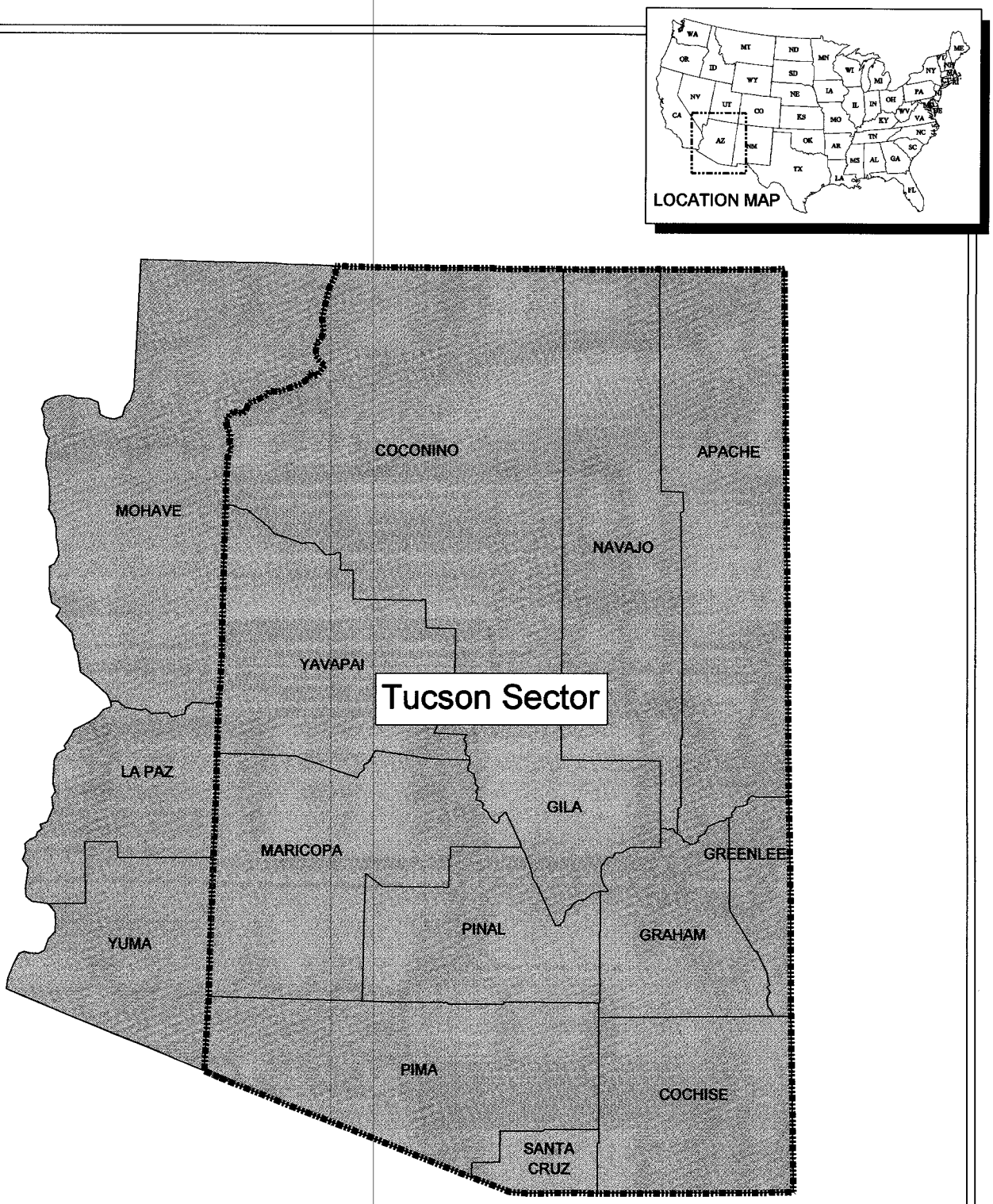


Figure 1-1: Tucson Sector

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Safeguard is a complex and diverse program that uses increased surveillance, remote sensing methods and technologies, search and rescue missions, personnel deployment, and other related tasks to detect and deter UDAs and illegal drug traffickers from entering the U.S.

### 1.2.3 Naco Station

The Naco Station's area of operation (AO) is located within Cochise County and covers approximately 1,600 square miles. The Station's AO includes 30 miles of international border and the communities of Naco, Bisbee, Tombstone, Sierra Vista, Warren, Hereford, Palominas and Huachuca. There are currently 210 USBP agents assigned to the station. The geographical terrain of the area is desert with rolling hills covered with brush thickets and numerous north-south trending washes. The approximate elevation of the station is 4,800 feet above mean sea level.

Agents at the Naco Station patrol 47 miles of improved and semi-improved roads within their AO on a daily basis. The Naco Station maintains 21 miles of drag roads along the border. Frequency of drag road preparation is at least daily and can occur up to three times a day. Off-road activity is limited to daily foot and horse patrols. There is a helipad and refueling facilities at the Naco Station. Helicopter flights within the Station's AO usually occur on a daily basis, with no set flight paths; although they generally fly along the international border and State Route 92. Approximately 124 sensors are in use and are maintained or moved monthly. The majority of sensors are located near the city of Naco. There are currently eight RVS sites (with seven additional RVS planned for installation in the near future), one mile of stadium style lights to the east of the POE, 11 light generators, 2.8 total miles of fence (one mile to the west of the POE, and 1.8 miles east of the POE), 6.25 miles of vehicle barriers, and two low water crossings within the Station's AO. In addition, the station is currently conducting maintenance on 40 miles of existing unimproved roads and developing plans to construct a new station.

## 1.3 Location of the Proposed Action

The proposed action is located in Cochise County near the town of Naco, Arizona (Figures 1-2 through 1-4). The Naco community is located on the U.S.-Mexico border across from Naco, Sonora, Mexico and is a legal POE. This area is located approximately 100 miles southeast of Tucson. Naco is a small community with few plans for expansion in the future. The proposed action would take place along an approximate 10.5-mile corridor along the U.S.-Mexico border.

## 1.4 Purpose and Need

The INS and the USBP are charged with the responsibility of protecting the sovereign borders of the United States. The INS has reported that the U.S.-Mexico border is breached more than any other international border in the world. It is a large, diverse, and difficult boundary to effectively enforce without the use of dedicated tactical infrastructure (fences, lights, roads, cameras, etc.).

Prior to the early 1990s, there was less awareness of southwest border issues and less national attention was given to illegal trans-boundary activity than is currently attributable. As a result, the USBP's growth was nominal, funding for enforcement efforts fell short, and the USBP functioned under severe constraints. Events over the last decade, however, related to illegal immigration and narcotics smuggling have increased the nation's awareness and generated substantial interest in controlling the U.S.-Mexico border. National concern has led to increased funding and staffing, and has also created new opportunities in the development of proactive border control strategies as demonstrated in patrol and enforcement operations throughout the southwest border area (e.g., Operations Gatekeeper, Hold-the-Line, Safeguard, and Rio Grande).

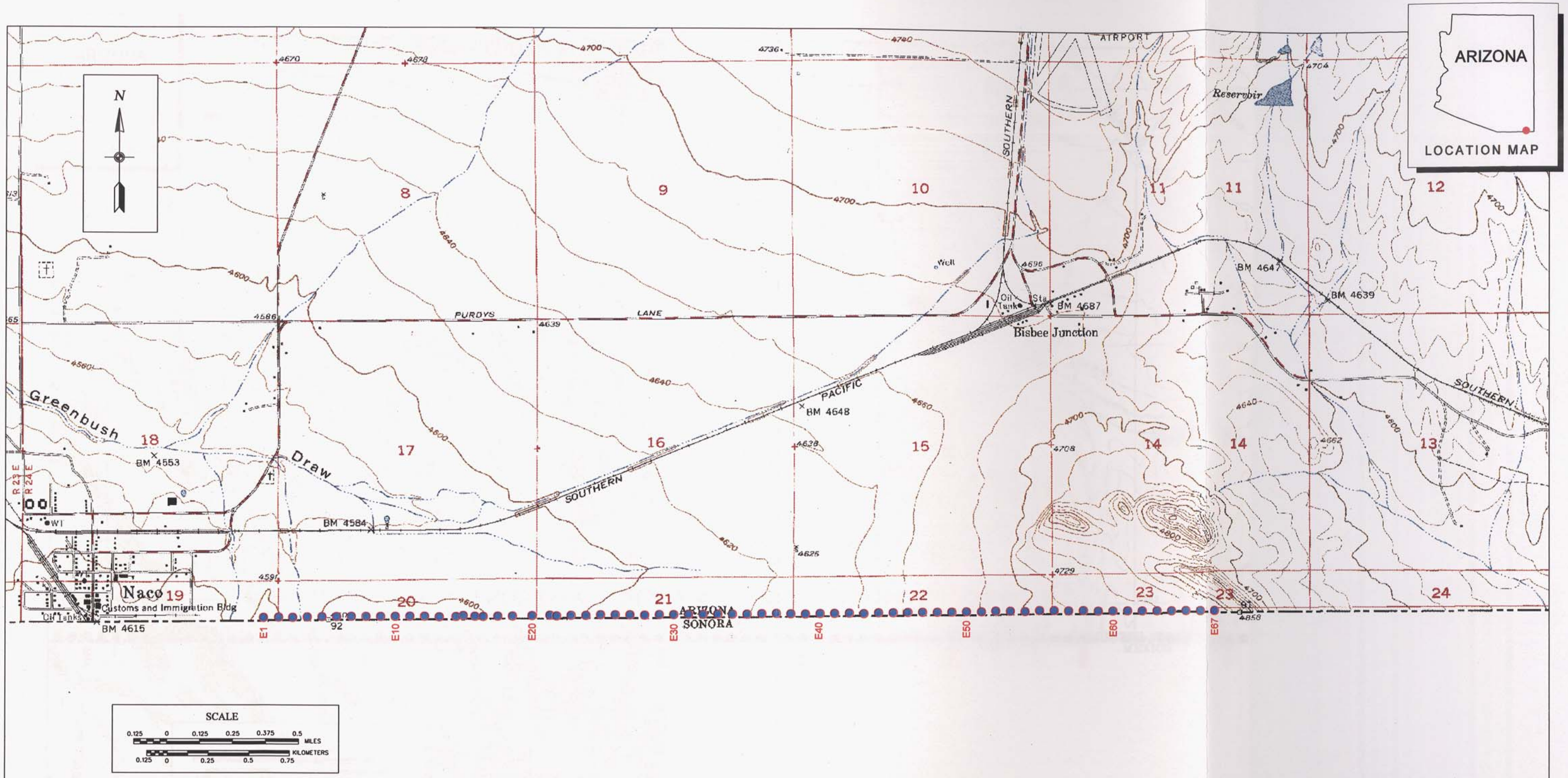


Figure 1-2: Portion of Naco, Arizona (1958) and Bisbee SE, Arizona (1957) USGS topographic quadrangle showing the portable light systems located east of Naco, Arizona.

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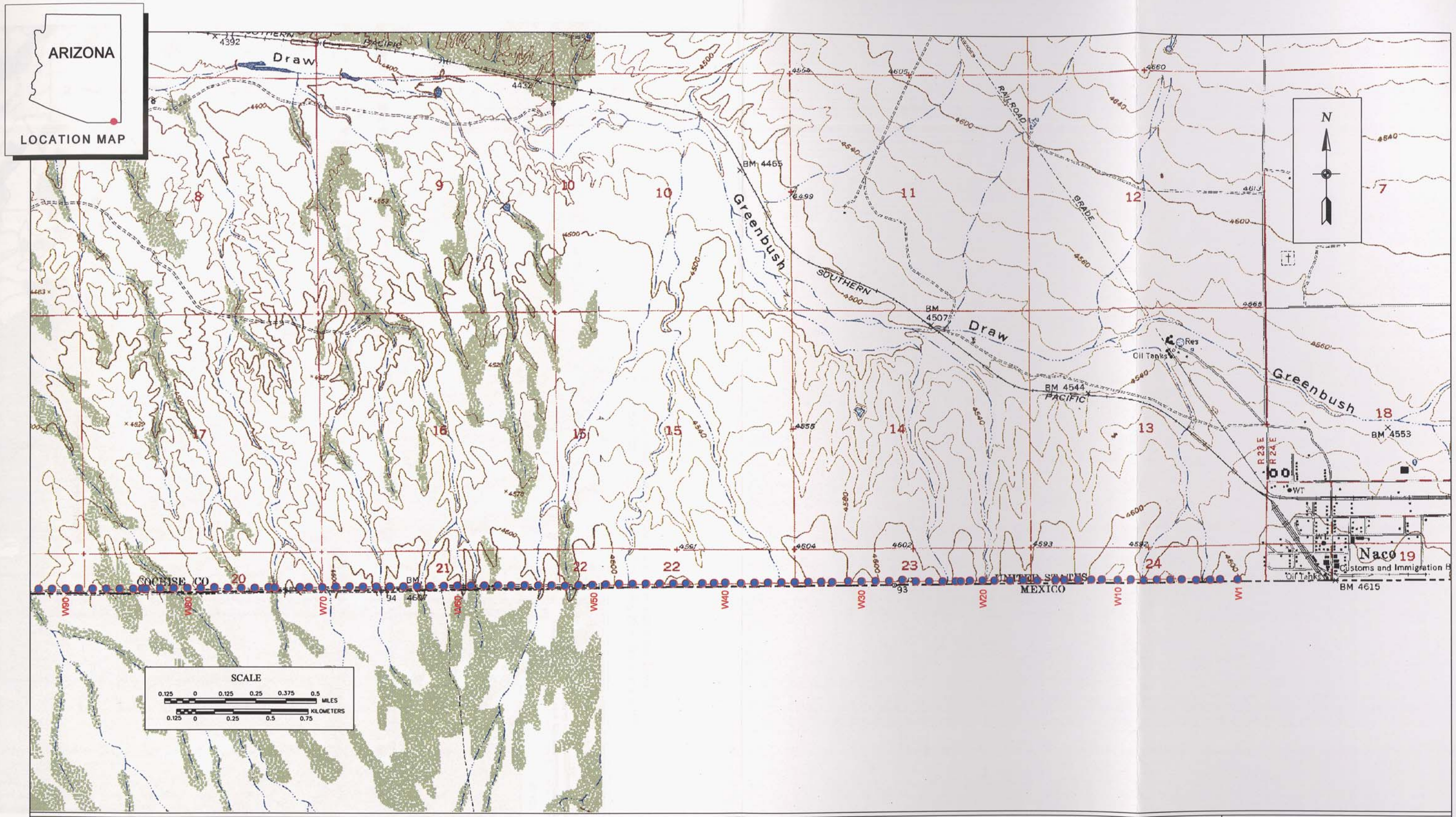


Figure 1-3: Portion of Naco, Arizona (1958) and Stark, Arizona (1957) USGS topographic quadrangle showing the portable light systems located west of Naco, Arizona

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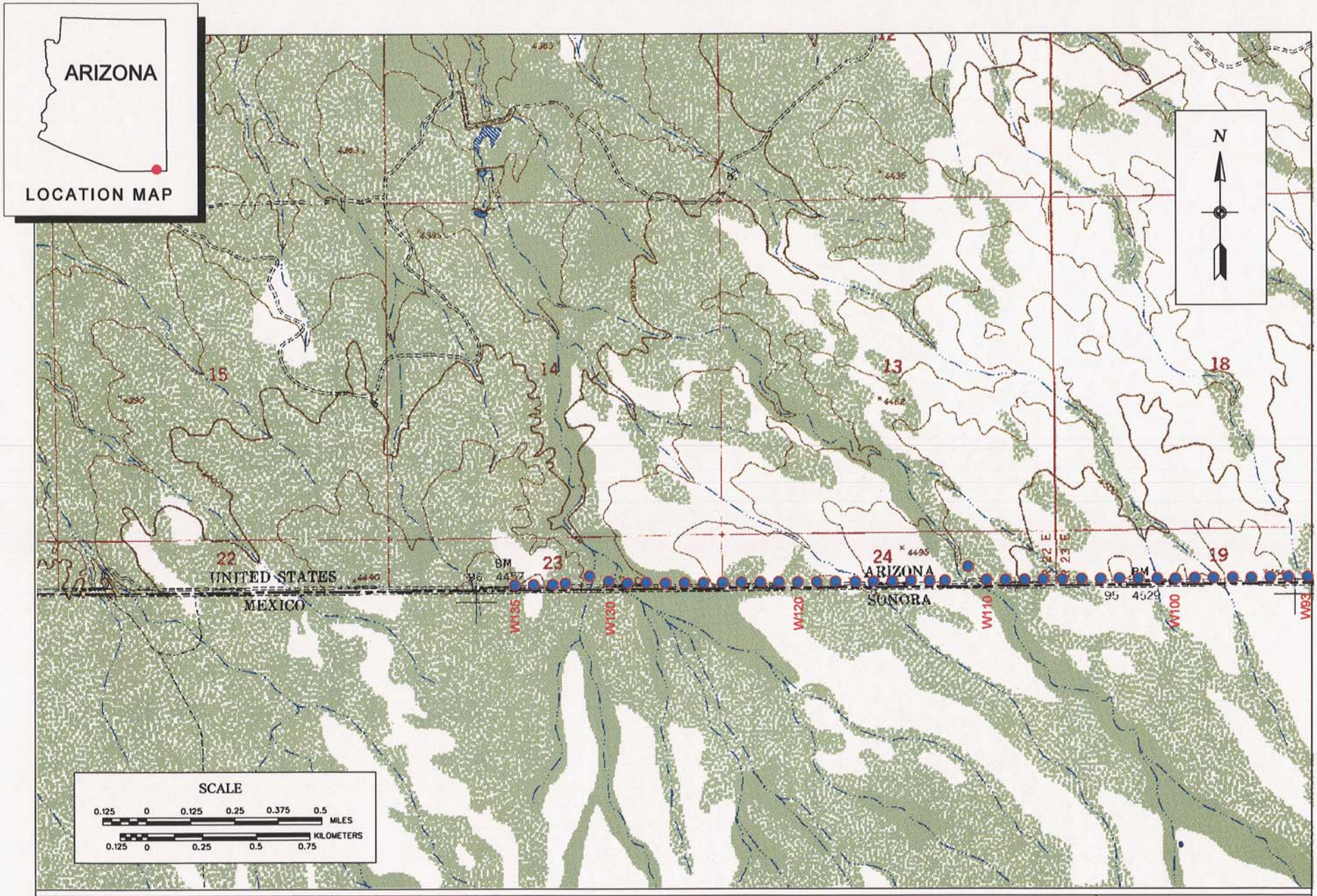


Figure 1-4: Portion of Stark, Arizona (1952) USGS topographic quadrangle showing the portable light systems located west of Naco, Arizona

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The enforcement strategy pre-dating such operations was necessarily reactive and, because little emphasis was placed on deterring illegal crossing, it diminished the importance of a infrastructure (e.g., lights) along the U.S.-Mexico border. Instead, the USBP's efforts focused singularly upon making apprehensions *after* the international boundary was breached. This strategy utilized the "element of surprise" by deploying limited resources away from the border in concealed positions. However, as illicit trafficking continued to increase, the area that the USBP was required to patrol also increased. The Border Patrol's inability to deter or contain illegal migration allowed an increase in the geographic footprint (and subsequent environmental impacts) of illegal migration patterns.

During recent years, the USBP has significantly increased its emphasis on deterrence. Deterrence is achieved only when the 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 lights, are a critical element in the current enforcement strategy. Developing 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 and drugs, and counter terrorism efforts) continue to pose a border enforcement challenge and compound the need for tactical infrastructure.

Consistent with the USBP's National Strategy it is critical to integrate lights with the current deployment of agents within the proposed action area. This will maximize the deterrent enforcement capability of the USBP and facilitate the desired level of border control by effecting a permanent state of deterrence through certainty of detection and apprehension. The lights will 1) deny would-be illegal entrants the cover of darkness thereby facilitating deterrence, 2) create a safer environment during the hours of darkness for both the agents and illegal entrants, 3) allow fewer agents to patrol the same area during hours of darkness, thereby allowing the USBP maximum patrol flexibility and efficiency, and 4) substantially aid in the protection of neighborhoods, business districts, and sensitive environmental areas that are north of their location through deterrence and consequent reduction in illegal traffic.

Illegal entries are often accomplished by utilizing the cover of darkness, which will be eliminated by lighting. While night vision capability and RVS systems greatly aid the USBP in monitoring nighttime border activity, these technologies are not as effective as lighting is in the creation of a credible sense of deterrence. Lighting immediately and visibly alters the operational environment and communicates effectively to would-be migrants/smugglers of the continuous presence of law enforcement agents.

Lighting, therefore, immediately facilitates a safer border environment in three ways: 1) it allows agents to better observe changing and dangerous terrain, 2) it helps agents prevent aliens from reaching the remote, unsafe areas of the desert, where deaths are common, by deterring illegal entries and facilitating apprehension, and 3) in much the same way it aids with creating a sense of deterrence, it denies border bandits, who prey upon migrants, the cover of darkness. Within the proposed project area, 67 undocumented aliens were reported as victims of assault in FY (fiscal year) 2001. During the same year, 13 aliens were rescued, and an additional five were found deceased. All incidents occurred relatively near the proposed project area.

Lighting also allows fewer agents to monitor the same geographic area, as compared to the same area without lighting, thereby immediately enabling a more effective and efficient deployment of personnel resources. This results in critical operational flexibility necessary to expanding enforcement efforts and providing adequate security to more border areas.

Lights will tremendously aid in the protection and preservation of neighborhoods, business districts, and sensitive environmental areas that are to the north of the project area. Lights are a necessary and important component of the border enforcement strategy. Without them, the ability of the USBP to establish an effective level of deterrence will be jeopardized. If deterrence is not established at the immediate border, then USBP agents will be unable to deter or contain illegal traffic to the immediate border, and the geographic footprint of the enforcement effort will necessarily grow larger than would otherwise be necessary if lighting were erected. Consequently, without proposed lighting initiative, illegal migration will detrimentally affect a much larger environment than is necessary.

In Douglas, Arizona where lights have been added to support border enforcement efforts, a dramatic change has occurred. With the advent of border lighting, illegal entries dropped by 74, 63, and 80 percent, respectively, in the three zones affected by the new lighting project. Conversely, there is a positive correlation between the onset of the lighting project and a rising quality of life within the City of Douglas.

Aided by border lighting projects, the apprehension rate in the Tucson Sector has dramatically decreased in the past year as a result of the deterrent strategy. Lights have been deployed at other Tucson Sector stations and have contributed immediately to border control. The lack of lighting complicates border enforcement efforts substantially and perpetuates conditions that are favorable to illicit border traffic and its ill effects.

## 1.5 Report Organization

This report is organized into nine major sections including this introduction and the description of the purpose, need, and location of the proposed project. Section 2 describes all alternatives considered for the project. Section 3 discusses the environmental features potentially affected by the project, while Section 4 discusses the environmental consequences for each of the viable alternatives. Mitigation measures are discussed in Section 5 and public comments are addressed in Section 6. Sections 7, 8, and 9 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, respectively. Appendix A includes supporting documents of the public involvement program, such as the notice of availability. Other supporting documents can be found in the Environmental Assessment completed for U.S. Border Patrol's infrastructure along the Naco-Douglas corridor in Cochise County, Arizona (INS 2000).

# SECTION 2.0
# ALTERNATIVES

## 2.0 ALTERNATIVES

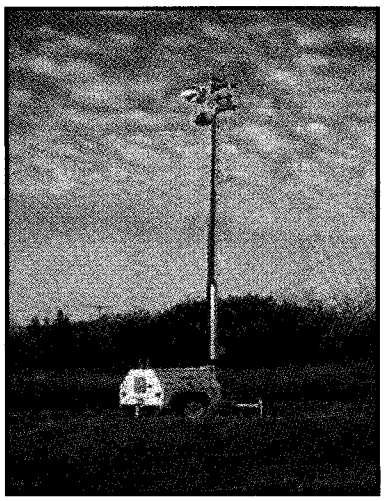
Various alternatives were identified and considered during the planning stages of the proposed project including the proposed action, the no action alternative, and the permanent lights alternative. Other alternatives were considered but eliminated from further detail and will be discussed later in this section. The following paragraphs describe the alternatives that were considered to be viable or are required by the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ).

### 2.1 No Action

The No Action Alternative would not require the acquisition and use of all proposed portable generator lights along the border. Under this alternative, conditions would remain the same, and illegal entrants would be less likely to be apprehended, or risk to the health and safety of border patrol agents would increase by requiring that they enter high traffic areas without sufficient lighting. This alternative does not satisfy the purpose and need as described in Section 1.0; however, it will be carried forward as required by NEPA and CEQ regulations.

### 2.2 Proposed Action

This alternative would require the acquisition and operation of portable lights. About 30 to 50 portable lights would be deployed, on an as needed basis, anywhere along the 10.5-mile corridor along the U.S.-Mexico border, three miles to the east and 7.5 miles to the west of the POE at Naco. Portable light generators would be transported via USBP vehicles. A total of 202 sites, spaced anywhere from 100 to 400 feet apart along the 10.5-mile corridor and within 100 feet north of the border, have been designated for intermittent light placement, when needed. Location and duration of light placement would be dependant and based upon the requirements of USBP intelligence operations. Portable lights would be moved to the sites where USBP intelligence indicates



**Photograph 1. Typical Portable Light**

increases in UDA and smuggling activities may occur. This alternative would enhance the detection of illegal activities and significantly enhance the USBP's ability to gain and maintain control of the border. *Thus, this alternative is the preferred alternative.*

The portable lights are powered by a 6-kilowatt self-contained diesel generator. Portable lights will generally operate continuously every night and will require refueling every day prior to the next night's operation. The portable light systems can be towed to the desired location by USBP vehicles, but they are typically spaced approximately 100 to 400 feet apart, depending upon topography and known UDA traffic areas. Placement of the portable lights is estimated to affect 100 square feet ($ft^2$), while the area affected by illumination from the lights is expected to be 200 feet from the light source, mostly in a southerly direction. The lighting systems would have shields placed over the lamps to reduce or eliminate the effects of backlighting. Effects from the lighting are considered to occur along the entire corridor where they could be placed; however, in reality, only part(s) of the corridor would be illuminated at a given time since the portable lights would be periodically relocated to provide the most effective deterrent and enforcement strategy. Illumination from the portable lights would typically not overlap, leaving an area of darkness between them. The use of secondary containment (e.g., catch pans) during installation and regular maintenance of the generators would aid in preventing any accidental diesel fuel or lubricant spills.

## 2.3 Permanent Lights

The Permanent Lights Alternative would involve the installation of approximately 160 permanent lighting systems along the U.S.-Mexico border, spaced about 350 feet apart. Permanent lights consist of stadium-type lights on approximately 30-foot poles with two to four lights per pole. Light bulbs can range from 400 to 1,000 watts. Two types of poles would be considered for the project: wooden poles, encased in concrete and steel culverts (to prevent them from being cut down), or steel poles with concrete footings. Permanent lights would be powered by overhead or underground electrical lines.

This alternative would entail more construction for powerlines and support poles, thus potentially increasing habitat losses. This alternative would also be substantially more

costly. However, this alternative is still considered viable and could be implemented at some time in the future.

## 2.4 Alternatives Considered but Eliminated From Further Detail

An alternative that was considered consisted of deploying 202 portable lights at each of the 202 designated sites. This alternative was eliminated from further consideration because it was deemed to be too costly and would require a full time crew to maintain and fuel the portable generators. This additional manpower would result in less USBP agents performing enforcement duties. In addition, the significant number of additional portable lights would increase the chances of accidental spills and the noise and air emissions produced by the generators.

Another alternative that was considered but eliminated from further detail is the use of solar power to run the portable lights. This alternative was developed with regard to the western energy crisis; however, it was eliminated from further consideration due to the cost of the solar systems and the potential for vandalism to the solar panels by illegal immigrants and smugglers.

# SECTION 3.0
# AFFECTED ENVIRONMENT

## 3.0 AFFECTED ENVIRONMENT

This section of the EA describes the existing conditions of the resources within or near the project that could be potentially affected by the proposed action. Only those resources considered to be potentially impacted are discussed herein. No hazardous materials or utilities were observed that could be potentially affected by the proposed action during field reconnaissance, and therefore will not be discussed further.

Much of the information presented in this section is referenced from the Environmental Assessment completed for U.S. Border Patrol's infrastructure along the Naco-Douglas corridor in Cochise County, Arizona (INS 2000), and is incorporated herein by reference, as allowed by NEPA and CEQ's regulations for implementing NEPA. For more detailed information on all the resources within the entire project region, please refer to the Naco-Douglas Corridor EA.

### 3.1 Land Use

The total area of Cochise County is 6,170 square miles. The 2000 census estimated the population to be 117,755 with a population density of 19.1 per square mile (U.S. Census Bureau 2001). The largest land use in the entire county is in the private and corporate ownership category (42%). The principal land use outside the urban areas is rangeland and agriculture (cotton, alfalfa, barley, corn, and vegetables). The U.S. Forest Service (USFS), U.S Fish and Wildlife Service (USFWS), and the U.S. Bureau of Land Management (BLM) control approximately 841,000 acres (21%), and the State of Arizona controls approximately 1,368,000 acres (34%), which is used primarily for recreation, historical, and natural areas.

Naco is primarily an urban area with a 2000 population of approximately 833 individuals (U.S. Census Bureau 2001). Land use within the Naco Corridor is mostly controlled by the private ownership category (54%) with 117,100 acres. This includes urban development within and near Naco and agriculture and rangeland outside of Naco. The second largest land use category is controlled by the State of Arizona (15%) with 32,900 acres. BLM controls 23,000 acres within the Naco Station with an additional 31,400 acres for the Coronado National Forest. The remaining land is used by Fort Huachuca

Military Reservation (3%) and the Coronado National Memorial (2%). Land use in the vicinity of the project area is mostly privately owned rangeland.

## 3.2 Soils and Prime Farmland

### 3.2.1 Soil Associations

The dominant soil associations in the Naco Corridor are the Casto-Martinez-Canelo Association, Lithic Haplustolls-Lithic Argiustolls-Rock Outcrop Association, Lithic Torriorthents-Lithic Argiustolls-Rock Outcrop Association, Nickel-Latene-Pinaleno Association, Tubac-Sonoita-Grabe Association, and White House-Bernardino-Hathaway Association (Hendricks 1985).

Soil associations found in the project area generally have well drained, sandy, gravely consistencies and are usually shallow. Soils found closer to drainage areas have a loamy element to them. For more detailed information on each of the soil types found in and around the project area see the EA for Infrastructure within USBP Naco-Douglas Corridor, Cochise County, Arizona (INS 2000).

### 3.2.2 Hydric Soils

There are no hydric soils located within the study area (INS 2000).

### 3.2.3 Prime Farmland

There are no unique farmlands located within the study area. Prime farmlands are classified as Category 1 soils that occur mainly within the San Pedro valley. These soils are not considered unique because they require irrigation to be cultivated (INS 2000).

## 3.3 Biological Resources

### 3.3.1 Vegetation

The Apachian biotic province runs west from the New Mexico-Arizona state line through a large portion of Cochise County, Santa Cruz County, and parts of Pima County (Dice 1943). The province covers the grassy high plains and mountains of southeastern Arizona and consists of plant species adapted to semiarid conditions. There are six major vegetation communities in Arizona; however, only four (i.e., forest, woodland, grassland, and desert scrub) are located within Cochise County (Brown 1982; Brown and Lowe 1983). The project area is contained within the semi-desert grassland designation.

The semi-desert grassland is found in the valley areas of Cochise and eastern Pima counties. This vegetation type is dominated by grama grasses (*Bouteloua* spp.), tobosa grass (*Hilaria mutica*), curly mesquite (*Hilaria belangeri*), sacaton (*Sporobolus airoides*), and scrub-shrubs such as honey mesquite (*Prosopis glandulosa*), one-seed juniper (*Juniperus monosperma*), littleleaf sumac (*Rhus microphylla*), and desert hackberry (*Celtis pallida*).

A 100-percent pedestrian survey was conducted along the 10.5-mile corridor in May 2001. The surveyed area contained a 100-foot wide corridor north of the international boundary. The biological survey was conducted in an effort to inventory biological resources in the proposed project area and evaluate the potential effects of alternatives on these resources.

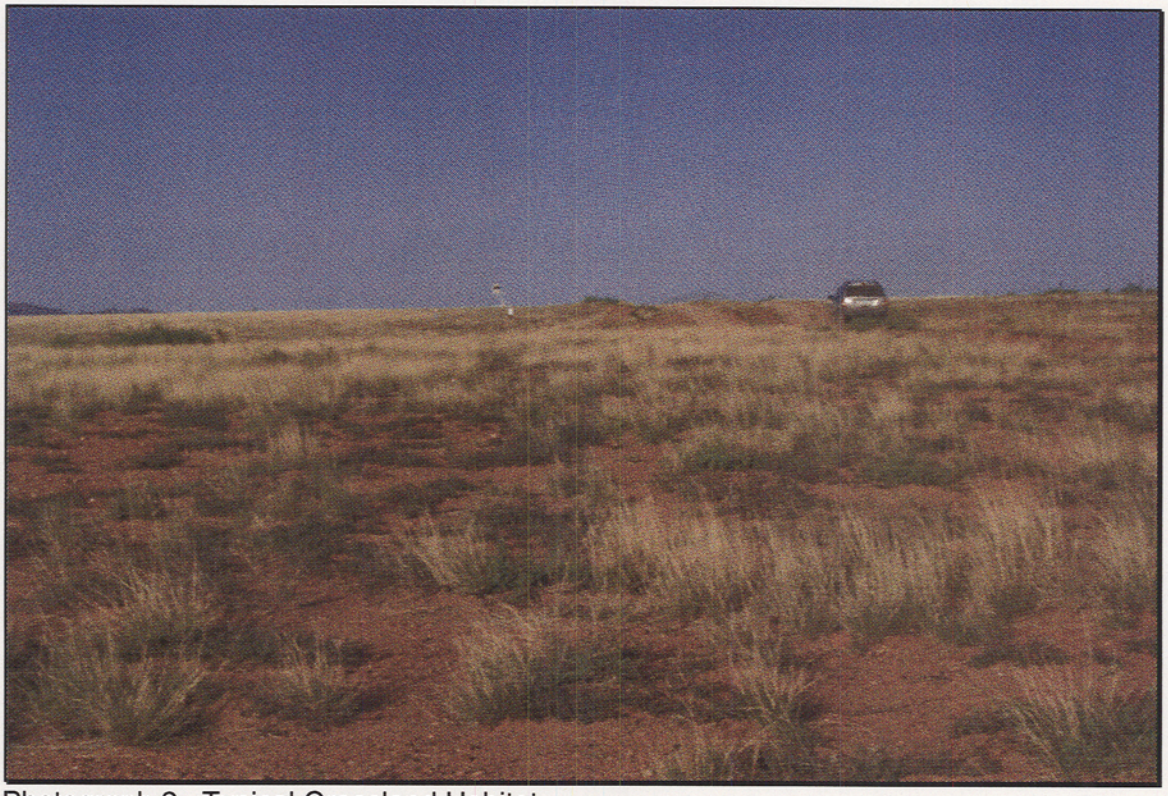
Based on these recent field surveys, the types of communities along the project corridor were considered a complex of mesquite (*Prosopsis glandulosa*)/tarbush (*Flourensia cernua*) scrub-shrub community and semi-desert grasslands. Common associate plant species, other than those described above, that were recorded during these surveys included Thurber's pepperweed (*Lepidium thurberi*), acacia (*Acacia* sp.), broom snakeweed (*Gutierrezia sarothrae*), bluegrass (*Andropogon* sp.), prickly pear cactus (*Opuntia* sp.), white bur-sage (*Franseria dumosa*), cane cholla (*Opunita spinosior*), banana yucca (*Yucca baccata*), dessert holly (*Acourtia nana*), common cocklebur

(*Xanthiun strumarium*), jimsonweed (*Datura meteloides*), bluestem pricklepoppy (*Argemone pleiacantha*), fairy duster (*Calliandra eriophylla*), and desert nightshade (*Solanum elaeagnifolium*).

The eastern side of the Naco POE contained more of the mesquite/tarbush community interspersed within the grassland habitat (Photograph 2). In the western reaches of the project corridor, scrub-shrub communities dominated the arroyos with the grassland habitat on the hillsides and ridges (Photograph 3). Shrubs and small trees commonly found within the arroyos included mesquite, desertbroom (*Baccharis sarothroides*), western soapberry (*Sapindus saponaria*), acacia, and littleleaf sumac.

### 3.3.2 Wildlife

The native faunal components of southeastern Arizona, to include Cochise County, include about 370 species of birds have been reported from southeastern Arizona. The bird population is dominated by sparrows and towhees (35 species); wood warblers (32 species); swans, geese, and ducks (31 species); tyrant flycatchers (30 species); and sandpipers and phalaropes (26 species). The majority of these bird species occur in spring and fall when neotropical migrants (e.g., flycatchers and warblers) pass through on their way to summer breeding or wintering grounds and in the winter when summer resident birds (i.e., robins, kinglets, and sparrows) from the north arrive to spend the winter. The majority of the 109 mammalian species found in the area are bats and rodents (i.e., mice and rats, squirrels) with rodents (e.g., pocket mice and kangaroo rats) being the most commonly encountered mammals. Of the 23 amphibian species that inhabit southeastern Arizona, spadefoot toads and true toads are dominant and the most widespread. A total of 72 species of reptiles can be found in the area with the iguanid lizards and colubrid snakes being the most prevalent along with whiptails. The types of wildlife commonly occurring in Cochise County are listed in Appendix A of the EA for Infrastructure within USBP Naco-Douglas Corridor, Cochise County, Arizona (INS 2000).



Photograph 2. Typical Grassland Habitat

Photograph 3. Grassland Habitat with Dense Scrub-Shrub in Arroyos

No aquatic communities exist within the project area.

During recent field surveys (May 2001), common fauna seen in the project area were black-tailed jackrabbits, desert cottontails, whiptails, and numerous bird species. Bird species observed during surveys were the black-throated sparrow, common raven, bronzed cowbird, Gambel's quail, western kingbird, brown towhee, horned lark, pyrrhuloxia, loggerhead shrike, mourning dove, white-winged dove, mockingbird, brown towhee, Say's phoebe, scaled quail, Inca dove, great-tailed grackle, cactus wren, and blue grosbeak.

Many inactive nests were found, but only one active nest (black-throated sparrow) was located in the project area. This site was flagged and will be avoided during placement of the portable lights.

### 3.3.3 Unique or Sensitive Areas

Several unique or sensitive areas are found in or near Cochise County, Arizona. The closest one to the project area is the San Pedro Riparian National Conservation Area. While this conservation area is near, it is not located within the project area.

## 3.4 Protected Species and Critical Habitats

The Endangered Species Act (ESA) [16 U.S.C. 1531 et. Seq.] of 1973, as amended, was enacted to provide a program for the preservation of endangered and threatened species and to provide protection for the ecosystems upon which these species depend for their survival. All Federal agencies are required to implement protection programs for designated species and to use their authorities to further the purposes of the Act. Responsibility for the identification of a threatened or endangered species and development of any potential recovery plan lies with the Secretary of the Interior and the Secretary of Commerce.

The USFWS and the National Marine Fisheries Service (NMFS) are the primary agencies responsible for implementing the ESA. The USFWS is responsible for birds and terrestrial and freshwater species, while the NMFS is responsible for non-bird marine species. The

USFWS responsibilities under the ESA include: (1) the identification of threatened and endangered species; (2) the identification of critical habitats for listed species; (3) implementation of research on, and recovery efforts for, these species; and (4) consultation with other Federal agencies concerning measures to avoid harm to listed species.

An endangered species is a species in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Proposed species are those that have been formally submitted to Congress for official listing as threatened or endangered. Species may be considered endangered or threatened when any of the five following criteria occurs: (1) the current/imminent destruction, modification, or curtailment of their habitat or range; (2) overuse of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; and (5) other natural or human-induced factors affect continued existence.

In addition, the USFWS has identified species that are candidates for listing as a result of identified threats to their continued existence. The Candidate I designation includes those species for which the USFWS has sufficient information on hand to support proposals to list as endangered or threatened under ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity.

The ESA also calls for the conservation of what is termed Critical Habitat – the areas of land, water, and air space that an endangered species needs for survival. Critical habitat also includes such things as food and water, breeding sites, cover or shelter, and sufficient habitat area to provide for normal population growth and behavior. One of the primary threats to many species is the destruction or modification of essential habitat by uncontrolled land and water development.

### 3.4.1 Federal

A total of 23 Federally endangered, threatened, proposed threatened, and candidate species occur within Cochise County, Arizona (USFWS 2000; AGFD 2000). A total of

12 species are listed as endangered, seven as threatened, one as proposed threatened, and three as candidate. Information pertaining to these Federally protected species is included in Table 3-1.

Protected species in the Naco-Douglas Corridor are generally concentrated near the San Pedro River and the Huachuca Mountains. No known locations of threatened or endangered species occur within the project corridor.

The USFS and the BLM both maintain a list of Sensitive (S) species located in the National Forests or on the BLM lands of Arizona. A list of USFS and BLM sensitive species is presented in the Arizona Game and Fish Department (AGFD) letter included in the Appendix B of the EA for Infrastructure within USBP Naco-Douglas Corridor, Cochise County, Arizona (INS 2000).

No Federally listed threatened or endangered species were found during the biological survey performed for this project (May 2001) or during past surveys in the Naco area (USACE 1993, 1994, 1996, 2000).

Revised According to the AGDF, there have been no confirmed sightings of the protected jaguar (*Panthera onca*), ocelot (*Felis pardalis*), or jaguarundi (*Felis yagouaroundi cacomitli*) in or near the project area in recent years (2001). One ocelot sighting was reported din the last two years in Mexico near Douglas, Arizona. The last confirmed sighting so the jaguar were in 1996 near the Baboquivari Mountains, approximately 100 miles to the west of the project corridor in Pima County, Arizona. There are no confirmed sightings of the jaguarundi in the region (AGFD 2001, Tewes 2001).

Revised The range of the lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*) is from "southern Arizona and extreme southwestern New Mexico, through western Mexico, and south to El Salvador" (Bat Conservation International 2001, University of Arizona 2001). The occurrences in southern Arizona range from "the Picacho Mountains southwest to the Agu Dulce Mountains, southeast to the Chiricahua Mountains" (University of Arizona 2001). Although the lesser long-nosed bat is out of the range of the project area, their habitats, roosting areas, and feeding areas were evaluated. Assessments during the field surveys performed in 2001 were based on the presence of the columnar cacti,

which are the preferred food source, and appropriate roosting and breeding sites, caves and mines (Bat Conservation International 2001, University of Arizona 2001). No such cacti or roosting and breeding sites were observed in or near the project corridor.

**Table 3-1**
**Federally Listed, Proposed, and Candidate Species Potentially Occurring within Cochise County**

| Common/Scientific Name | Status | Date Listed | Designated Critical Habitat | Habitat Requirements |
|---|---|---|---|---|
| **FISHES** | | | | |
| Beautiful shiner<br>*Cyprinella formosa* | T | 8/31/84 | 50 CFR 17.95(e) | Deep pools in creeks, scoured areas of cienegas, and other stream-associated quiet waters |
| Gila chub<br>*Gila intermedia* | C | NA | NA | Pools, springs, cienegas, and streams |
| Gila topminnow<br>*Poeciliopsis occidentalis occidentalis* | E | 3/11/67 | NA | Streams, springs, and cienegas between 4,000 - 5,000 feet elevation, primarily in shallow areas |
| Loach minnow<br>*Tiaroga cobitis* | T | 10/28/86 | 50 CFR 17.95(e) | Lower San Pedro River has been designated as critical habitat by USFWS |
| Spikedace<br>*Meda fulgida* | T | 7/1/86 | 50 CFR 17.95(e) | Lower San Pedro River has been designated as critical habitat by USFWS |
| Yaqui catfish<br>*Ictalurus pricei* | T | 8/31/84 | 50 CFR 17.95(e) | Moderate to large streams with slow current over sand and rock bottoms |
| Yaqui chub<br>*Gila purpurea* | E | 8/31/84 | 50 CFR 17.95(e) | Deep pools of small streams, pools, or ponds near undercut banks |
| Yaqui topminnow<br>*Poeciliopsis occidentalis sonoriensis* | E | 3/11/67 | NA | Vegetated springs, brooks, and margins of backwaters. Found generally in the shallows |
| **REPTILES** | | | | |
| New Mexico ridge-nosed rattlesnake<br>*Crotalus willardi obscurus* | T | 4/4/78 | 50 CFR 17.95(c) | Presumably canyon bottoms in pine-oak and pin-fir communities |

**Sources:** USFWS 2000; AGFD 2000

**Legend:**
E= Endangered
T= Threatened
P= Proposed Endangered or Threatened
C= Candidate
NA= Not Applicable

**Table 3-1**
**Federally Listed, Proposed, and Candidate Species Potentially Occurring within Cochise County**

| | | | | |
|---|---|---|---|---|
| **PLANTS** | | | | |
| Canelo Hills ladies' tresses<br>*Spiranthes delitescens* | E | 1/6/97 | NA | Finely grained, highly organic, saturated soils of cienegas |
| Cochise pincushion cactus<br>*Coryphantha robbinsorum* | T | 1/9/86 | NA | Semidesert grassland with small shrubs, agave, other cacti, and grama grass |
| Huachuca water umbel<br>*Lilaeopsis schaffneriana* var. *recurva* | E | 1/6/97 | 50 CFR 17.96(a) | Cienegas, perennial low gradient streams, wetlands |
| Lemmon fleabane<br>*Erigeron lemmonii* | C | NA | NA | Crevices, ledges, and boulders in canyon bottoms in pine-oak woodlands |
| **BIRDS** | | | | |
| Mexican spotted owl<br>*Strix occidentalis lucida* | T | 3/15/93 | NA | Old growth forest associated with steep canyons |
| Northern aplomado falcon<br>*Falco femoralis septentrionalis* | E | 1/25/86 | NA | Desert grasslands |
| Southwestern willow flycatcher<br>*Empidonax traillii extimus* | E | 2/27/95 | 50 CFR 17.95(b) | Dense riparian vegetation |
| **INVERTEBRATES** | | | | |
| Huachuca springsnail<br>*Pyrgulopsis thompsoni* | C | NA | NA | Aquatic areas, small springs with vegetation slow to moderate flow |

**Sources:** USFWS 2000; AGFD 2000

**Legend:**
E= Endangered
T= Threatened
P= Proposed Endangered or Threatened
C= Candidate
NA= Not Applicable

**Table 3-1**
**Federally Listed, Proposed, and Candidate Species Potentially Occurring within Cochise County**

| | | | | |
|---|---|---|---|---|
| **MAMMALS** | | | | |
| Jaguar<br>*Panthera onca* | E | 7/22/97 | NA | Variety of habitats including lowland wet habitats and typically swampy savannas |
| Jaguarundi<br>*Felis yagouaroundi cacomitli* | E | 6/14/76 | NA | Dense thorny thickets of mesquite and acacia |
| Lesser long-nosed bat<br>*Leptonycteris curasoae yerbabuenae* | E | 9/30/88 | NA | Desert scrub habitat with columnar cacti and agave present as food plants |
| Ocelot<br>*Felis pardalis* | E | 7/21/82 | NA | Humid tropical and sub-tropical forests, savannas, and semi-arid thornscrub |
| **AMPHIBIANS** | | | | |
| Chiricahua leopard frog<br>*Rana chiricahuensis* | PT | NA | NA | Streams, rivers, backwaters, ponds, and stock tanks |
| Sonora tiger salamander<br>*Ambystoma tigrinum stebbinsi* | E | 1/6/97 | NA | Stock tanks and impounded cienegas in San Rafael Valley, Huachuca Mountains |

**Sources:** USFWS 2000; ADFG 2000

**Legend:**
E= Endangered
T= Threatened
P= Proposed Endangered or Threatened
C= Candidate
NA= Not Applicable

#### 3.4.1.1 Critical Habitat

Critical habitat has been designated for eight species identified as potentially occurring in Cochise County, Arizona (USFWS 2000; AGFD 2000). None of these eight species have designated critical habitat in the proposed project area. Critical habitat designations closest to the project area are for the spikedace and loach minnow. The protected area is the San Pedro River, which over one mile west of the project area.

### 3.4.2 State

The AGFD maintains lists of Wildlife of Special Concern (WC). This list includes species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines (AGFD 2000). These species are not necessarily the same as those protected by the Federal government under the ESA. Information pertaining to Wildlife of Special Concern potentially occurring in Cochise County is presented in the AGFD letter included in Appendix B of the EA for Infrastructure within USBP Naco-Douglas Corridor, Cochise County, Arizona (INS 2000).

The Arizona Department of Agriculture maintains a list of protected plant species within Arizona. The Arizona Native Plant Law (1993) defined five categories of protection within the state. These include: Highly Safeguarded (HS), no collection allowed; Salvage Restricted (SR), collection only with permit; Export Restricted (ER), transport out of state prohibited; Salvage Assessed (SA), permit required to remove live trees; and Harvest Restricted (HR), permits required to remove plant by-products (AGFD 2000). Information pertaining to state protected species potentially occurring in Cochise County is presented in the AGFD letter included in Appendix B of the EA for Infrastructure within USBP Naco-Douglas Corridor, Cochise County, Arizona (INS 2000).

No Arizona state protected species were found during the biological survey (May 2001) performed for this project.

### 3.4.3 Navajo Nation

The Navajo Endangered Species List (1997) provides special status for species located on any portion of the Navajo Nation, which includes parts of Arizona. A list of special status species whose distribution includes part, or all, of the Arizona portion of the Navajo Nation is presented in the AGFD letter included in Appendix B of the EA for Infrastructure within USBP Naco-Douglas Corridor, Cochise County, Arizona (INS 2000).

No Navajo special status species were found during the biological survey performed for this project.

## 3.5 Cultural Resources

The cultural resources within the study area are extensive and diverse. Numerous terrestrial investigations have been performed north of the U.S.-Mexico border in the project area. These investigations and their results are discussed in detail in the EA completed for USBP's infrastructure along the Naco-Douglas corridor in Cochise County, Arizona (INS 2000). Furthermore, recent surveys were conducted along the entire Naco-Douglas corridor to relocate and re-evaluate sites that were previously identified. No sites that are considered potentially eligible for inclusion to the National Register of Historic Places (NRHP) are found within the project corridor (USACE 2001).

## 3.6 Air Quality

The U.S. Environmental Protection Agency (USEPA) defines ambient air quality in 40 CFR 50 as "that portion of the atmosphere, external to buildings, to which the general public has access". In 40 CFR 50, USEPA has designated "criteria air pollutants" in which ambient air quality standards have been established. Ambient air quality standards are intended to protect public health and welfare and are classified as either "primary" or "secondary" standards. Primary standards define levels of air quality necessary to protect the public health. National secondary ambient air quality standards define levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Primary and secondary standards have been established for carbon monoxide, lead, ozone, nitrogen dioxide, particulate matter (total and inhalable fractions)

and sulfur dioxide. Areas that do not meet these standards are called non-attainment areas; areas that meet both primary and secondary standards are known as attainment areas. The state of Arizona has adopted the National Ambient Air Quality Standards (NAAQS) as the state's air quality standards (Table 3-2).

**Table 3-2. National Ambient Air Quality Standards**

| POLLUTANT | STANDARD VALUE | STANDARD TYPE |
|---|---|---|
| **Carbon Monoxide (CO)** | | |
| 8-hour average | 9ppm (10mg/m$^3$)** | Primary |
| 1-hour average | 35ppm (40mg/m$^3$)** | Primary |
| **Nitrogen Dioxide ($NO_2$)** | | |
| Annual arithmetic mean | 0.053ppm (100μ/m$^3$)** | Primary and Secondary |
| **Ozone ($O_3$)** | | |
| 1-hour average* | 0.12ppm (235μg/m$^3$)** | Primary and Secondary |
| 8-hour average* | 0.08ppm (157μg/m$^3$)** | Primary and Secondary |
| **Lead (Pb)** | | |
| Quarterly average | 1.5μg/m$^3$ | Primary and Secondary |
| **Particulate<10 micrometers (PM-10)** | | |
| Annual arithmetic mean | 50μg/m$^3$ | Primary and Secondary |
| 24-hour average | 150μg/m$^3$ | Primary and Secondary |
| **Particulate<2.5 micrometers (PM-2.5)** | | |
| Annual arithmetic mean | 15μg/m$^3$ | Primary and Secondary |
| 24-hour Average | 65μg/m$^3$ | Primary and Secondary |
| **Sulfur Dioxide ($SO_2$)** | | |
| Annual arithmetic mean | 0.03ppm (80μg/m$^3$)** | Primary |
| 24-hour average | 0.14ppm (365μg/m$^3$)** | Primary |
| 3-hour average | 0.50ppm (1300μg/m$^3$)** | Secondary |

**Source:** USEPA 1995.
**Legend:** ppm = parts per million
mg/m$^3$ = milligrams per cubic meter of air
μg/m$^3$ = micrograms per cubic meter of air

*The ozone 1-hour standard applies only to areas that were designated non-attainment when the ozone 8-hour standard was adopted in July 1997.
**Parenthetical value is an approximate equivalent concentration.

The majority of the Arizona segment of the U.S.-Mexico border area is sparsely settled desert or semi-desert. However, this segment contains two large areas of urbanization, the Phoenix and Tucson metropolitan areas. Several "sister cities" are also located along the U.S.-Mexico border. There are a number of air quality problems related to the rural, urban, and industrial areas within this study area. Man-made sources of air contaminants

affect the air quality of the study area. These sources include: industrial emissions, mobile (vehicular) emissions, area emissions (e.g., emissions from numerous residences and small commercial establishments in an urban setting), dust resulting from wind erosion of agriculturally disturbed lands, smoke from forestry burns, and pollutants transported into the study area on winds blowing from major urban/industrial areas outside the study area. One of the largest sources of air pollution in Arizona is the controlled burning of forest land. Airborne particulates are a special problem in the border area. Construction activity and windblown dust from disturbed desert are significant sources of fugitive dust. In agricultural areas, farming activity is an additional source of fugitive dust. Many residences in the Mexican border area burn non-traditional fuels such as wood scraps, cardboard, and tires to provide warmth in the winter. The resulting particulate loading can also adversely affect air quality in the Arizona border counties.

In addition to airborne particulates, high concentrations of sulfur dioxide in the study area are of concern. Sulfur dioxide is the primary contributor to acid deposition, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur dioxide compounds in the air contribute to visibility impairment and may affect breathing and aggravate existing respiratory and cardiovascular disease (USEPA 2000). Ambient sulfur dioxide in the study area results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills, and from nonferrous smelters.

## 3.7 Water Resources

The project area receives water from surface runoff and groundwater via precipitation and snowmelt in the local mountains. Geologic forces have created a regional terrain that includes arroyos or washes (deep gullies), steep canyons, and somewhat flat basins. Due to the arid climate of the area, most of the drainage channels are dry most of the year. Rivers and streams that flow periodically due to fluctuations in precipitation are referred to as being ephemeral. Intermittent waterways (rivers, streams, etc.) are those that flow as a result of seasonal precipitation for the most part. Due to the flash flood tendency of the washes, sediment loads are high when water is present. Natural and human-induced factors determine the quality of these resources. Numerous small

ephemeral drainages transect the project corridor. No portable lights would be staged within or near any of these drainages.

The major surface water drainage in the project area is the Greenbush Draw, which flows through Naco and is a tributary of the San Pedro River. Numerous smaller streams, which are intermittent or ephemeral in nature, flow to or from the Draw depending on topography.

More information on surface and groundwater resources within the Naco area is described in detail in the EA for Infrastructure within USBP Naco-Douglas Corridor, Cochise County, Arizona (INS 2000). The information contained in that EA is incorporated herein by reference.

## 3.8 Socioeconomics

The 2000 census estimated the population of Cochise County to be 117,755 with Naco's population making up approximately 833 of that number (U.S. Census Bureau 2001). The four major communities near the study area are Huachuca City, Bisbee, Douglas, and Sierra Vista.

The socioeconomic resources of Naco and Cochise County were described in detail in the EA for Infrastructure within USBP Naco-Douglas Corridor, Cochise County, Arizona (INS 2000). The information contained in that EA is incorporated herein by reference.

## 3.9 Noise

The three common classifications of noise are: (1) general audible noise that is heard by humans; (2) special noise, such as sonic booms and artillery blasts that can have a sound pressure of shock component; and (3) noise-induced vibration also typically caused by sonic booms and artillery blasts involving noise levels that can cause physical movement (i.e., vibration) and even possible damage to natural and man-made structures such as buildings and cultural resource structures. Most noise sources will fall within the audible noise classification because of the rural nature of the majority of the study area.

Audible noise typically is measured in A-weighted sound pressure levels expressed in decibels (dBA). The A-scale de-emphasizes the low and high frequency portions of the sound spectrum and provides a good approximation of the response of the average human ear. On the A-scale, zero dBA represents the average least perceptible sound (gentle breathing) and 140 dBA represents the intensity at which the eardrum may rupture (jet engine at open throttle) (National Research Council 1977).

Since the proposed activities are not capable of attaining the speed of sound and thus are incapable of causing special noises, all noise levels discussed herein will be measured on the A-scale (dBA). Normal rural noise levels in the study area would range from a low of 35 decibels (dBA) over the majority of the corridor to a high of less than 60 dBA near any rural community.

# SECTION 4.0
# ENVIRONMENTAL CONSEQUENCES

# 4.0 ENVIRONMENTAL CONSEQUENCES

## 4.1 Land Use

### 4.1.1 No Action

Implementation of the No Action alternative would not affect current land use along the 10.5-mile corridor. The surrounding lands would continue to be used as open rangeland.

### 4.1.2 Portable Lights

Land use would not be significantly affected by the intermittent use of 30 to 50 portable lights along the 10.5-mile corridor, considering the ongoing disturbance caused by illegal activity and concomitant USBP operations in this area. The lights would be placed in any of the 202 designated areas, as needed. No new roads or other construction would be needed to complete this project. The proposed lighting systems would illuminate areas (i.e., border road) that would otherwise be dark; however, less disturbance of the area is anticipated after the lighting systems are used due to direct surveillance of the USBP. The use of portable lights would not have an effect on grazing or rangeland. Therefore, under the Portable Lights alternative, the overall land use of the project areas adjacent to each pole site would not change.

### 4.1.3 Permanent Lights

Land use would not be significantly affected by the installation of permanent lights along the 10.5-mile corridor. The use of permanent lights would not have an effect on grazing or rangeland. Under the Permanent Lights alternative, the overall land use of the project areas adjacent to each light standard would not significantly change. Construction to place the light standards and powerlines would be required. Still, no long-term effect to the surrounding land use would be expected from this alternative.

## 4.2 Soils

### 4.2.1 No Action

Under the No Action alternative, direct disturbances to soils from any construction, or portable light movement would not exist. However, existing erosion problems would continue since the USBP would continue to use the roads for patrol activities due to lack of sufficient lighting along the corridor.

### 4.2.2 Portable Lights

Implementation of the Portable Lights alternative would have minimal impacts to soil. Illumination of the portable lights would not have impacts on soil. Lights would be used intermittently and moved to any of the 202 sites, on an as-needed basis. Only 30 to 50 portable lighting systems are proposed for the project area. The use of the lighting, where needed, would reduce the amount of patrolling along the roads that USBP would be required to do; however, monitoring would continue along dark areas to apprehend UDAs and lessen any indirect effects to soils. No construction would be required to implement this alternative. However, hand clearing of vegetation might be required at some sites, which could temporarily disturb soils. Each site would require no more than 100 $ft^2$; therefore, the maximum amount of soil disturbed would be 20,200 $ft^2$ or about 0.46 acres if all sites required clearing. No mechanical methods of vegetation clearing would be used. The portable lights would generally be placed along the existing roads for easier vehicle/trailer maneuvering, which would keep disturbances to a minimum.

Portable light generators have the potential for soil contamination from accidental spills of petroleum, oils, and lubricants (POL). Use of secondary containment (e.g., catch pans) during installation and regular maintenance of the generators would aid in preventing this type of incident.

### 4.2.3 Permanent Lights

Implementation of the Permanent Lights alternative would have similar impacts on the soil of the Naco corridor as the Portable Lights alternative. The installation of lights standards

(poles) would permanently alter about one acre with the installation of 160 lights, and temporarily disturb about 225 $ft^2$ at each light location. If an above ground cable system were used, additional support poles would be required between each of the 160 designated sites. Additional ground disturbance would occur if underground powerlines were installed, as compared to overhead lines.

## 4.3 Biological Resources

### 4.3.1 Vegetation

#### 4.3.1.1 No Action

By implementing the No Action alternative, vegetation conditions would remain the same as they are now. Not implementing lighting along the corridor would maintain or increase the current levels of illegal entry attempts. Increases in illegal foot and vehicle traffic would indirectly result in additional damage to vegetation.

#### 4.3.1.2 Portable Lights

As mentioned previously, installation of some of the portable lights would require limited vegetation clearing using hand tools. No mechanical methods would be used. The maximum amount of vegetation that would be altered would be 0.46 acres, if all 202 sites were cleared. However, most of the project corridor west of the POE contains grassland communities that would not require clearing. Therefore, the amount of vegetation to be removed is anticipated to substantially less than 0.46 acres.

The use of artificial lighting may also negatively affect vegetation by altering the natural rate of photosynthesis and respiration (Kaufman and Christensen 1987). The magnitude of these effects would depend upon the frequency and magnitude of lighting use. Since the proposed action is to use 30 to 50 portable lights intermittently at 202 specified locations, on an as-need basis, the potential to affect the photosynthesis and respiration capabilities of surrounding vegetation would be considered negligible.

Indirect effects could occur to the vegetation beyond the project area by UDAs attempting to avoid areas that contain deterrence such as lights. USBP would patrol areas of darkness to apprehend UDAs, which would lessen any indirect effects to vegetation from

illegal traffic trying to skirt around the lit areas. The magnitude of these effects can not be determined at the present, since the routes selected by UDAs and smugglers are at their discretion and out of the control of the USBP.

4.3.1.3 Permanent Lights

As indicated previously, the installation of 160 lights would permanently alter about one acre and temporarily disturb about 225 $ft^2$ at each light location installation of 160 permanent stadium lights would be expected to alter about one acre of vegetation and temporarily disturb approximately 225$ft^2$ per light location. More disturbance would occur if the powerlines to the lighting standards are installed underground instead as overhead lines; however, overhead cable would require the installation of support poles between the lighting systems. The effects on photosynthesis and respiration would be similar to the portable lighting, but would be expected to be of a greater magnitude since more lights (160 versus 30 to 50) would be deployed under this alternative. Still, the effects would not be anticipated to be significant since the illumination would fall primarily within the disturbed footprint of the existing border road.

Indirect effects could occur to the vegetation beyond the project area by UDAs attempting to avoid areas that contain deterrence such as lights. The magnitude of these effects cannot be determined at the present, since the routes selected by UDAs and smugglers are at their discretion and out of the control of the USBP.

4.3.2 Wildlife

4.3.2.1 No Action

Implementation of the No Action alternative would require additional or increased frequency of nighttime patrol efforts. The magnitude of these effects would vary depending upon the actual increase, the area required to be patrolled, the season, and the species of concern.

4.3.2.2 Portable Lights Alternative

Impacts to wildlife resulting from the intermittent operation of high intensity lighting at night would occur. The adverse and/or beneficial effects of lighting on reptiles and amphibians are currently unknown; however, continual exposure to light has been

proven to slightly alter circadian rhythms in mammals and birds. Studies have proven that under constant light, the time an animal is active, compared with the time it is at rest, increases in diurnal animals, but decreases in nocturnal animals (Carpenter and Grossberg 1984). Also, in diurnal animals, the total amount of active time increases with light intensity, while the reverse is true in nocturnal species (Carpenter and Grossberg 1984). The alteration of circadian rhythms by high intensity lighting is minimal, accounting for a maximum of two to three hours of increase or decrease in activity per day (Luce 1977). It has also been shown that within several weeks under constant lighting, mammals and birds will quickly stabilize and reset their circadian rhythms back to their original schedules. The long-term effect of an increased photoperiod on mobile wildlife species is expected to be insignificant. Given the vast open area within the project corridor, animals can easily relocate to adjacent areas of darkness.

The area affected by illumination from the lights is expected to be 200 feet from the light source mostly within the footprint of the patrol road. Shields would be placed over the lamps of the lighting systems to reduce or eliminate the effects of backlighting. Effects from the lighting are considered to occur along the entire corridor where they could be placed; however, in reality, only parts(s) of the corridor would be illuminated at a given time since the portable lights would be periodically relocated to provide the most effective deterrent and enforcement strategy. Illumination from the portable lights would not typically overlap, leaving areas of darkness between them. USBP would patrol these areas for UDAs to lessen indirect effects to wildlife and their habitats, when UDAs attempt to avoid lit areas.

The greatest impacts to wildlife from the lighting would probably be to nocturnal species. Lights could affect the migratory patterns of birds and insects, causing them to alter their course or schedule. The tendency for nocturnal birds and other wildlife species to congregate around the lights to feed on insects attracted by the lights may increase. This change in behavior may make these species more vulnerable to predation or injury. Fewer impacts would be expected closer to the POE due to current levels of human activity being greater around the POE (INS 1998).

Revised Lesser long-nosed bat assessments performed during the field surveys in 2001 were based on the presence of the columnar cacti, which are the preferred food source, and

appropriate roosting and breeding sites, caves and mines (Bat Conservation International 2001, University of Arizona 2001). No such cacti or roosting and breeding sites were observed in or near the project corridor.

The potential loss of a maximum of 0.46 acres of habitat within the 10.5-mile corridor would be considered an insignificant reduction in available wildlife habitat.

#### 4.3.2.3 Permanent Lights

The effects from the installation and operation of permanent lights, compared to portable lights would be similar, but of a slightly greater magnitude due to the increase in the actual numbers of lights. Provided environmental design features are incorporated to the lights to prevent or reduce illumination bleeding into undisturbed native habitats, the effects to wildlife populations from permanent lights would be expected to be insignificant as well.

### 4.3.3 Unique or Sensitive Areas

None of the alternatives are expected to result in adverse impacts to the unique or sensitive areas. The closest such area (San Pedro NCA) is approximately five miles to the west of the end of the proposed lighting corridor.

Indirect effects, such as disturbances to vegetation from the creation of UDA trails, could occur to the San Pedro NCA by UDAs attempting to avoid the lighted areas. The magnitude of these effects cannot be determined at the present, since the routes selected by UDAs and smugglers are at their discretion and out of the control of the USBP. It is anticipated that the UDAs and smugglers would not travel the additional five miles to the San Pedro NCA, just to avoid the portable lights; rather they would probably travel 0.5 to 1.5 miles beyond the illuminated areas. Unlit portions in the project area would be monitored by USBP to alleviate any indirect effects from UDAs trying to avoid the illuminated areas.

## 4.4 Protected Species and Critical Habitats

### 4.4.1 No Action

Implementation of the No Action alternative would not provide the necessary deterrence capabilities to maintain or reduce the number of illegal entry attempts. This alternative would, thus, require additional or increased frequency of nighttime patrol efforts to provide the same level of deterrence and agent safety as would result from either of the action alternatives. Depending upon the area patrolled and the number of off-road apprehensions required, some unidentifiable impacts could occur to protected species.

### 4.4.2 Portable Lights

No threatened or endangered species were observed within the project corridor during recent (May 2001) or during past surveys in the Naco area (USACE 1993, 1994, 1996, 2000). No such species have been documented in previous EA for various projects within the Naco area. Therefore, no impacts to threatened or endangered species would be expected upon implementation of the Portable Lights alternative.

Revised According to AGFD, there have been no confirmed sightings of the three protected feline species, the ocelot, jaguar, or jaguarundi, in or near the project area in recent years (2001). One ocelot sighting was reported in the last two years in Mexico near Douglas, Arizona. The last confirmed sightings of the jaguar were in 1996 in the Baboquivari Mountains, approximately 100 miles to the west of the project corridor in Pima County, Arizona. There are no confirmed sightings of the jagarundi in the region (AGFD 2001, Tewes 2001).

Revised Lesser long-nosed bat assessments performed during the field surveys in 2001 were based on the presence of the columnar cacti, which are the preferred food source, and appropriate roosting and breeding sites, caves and mines (Bat Conservation International 2001, University of Arizona 2001). No such cacti or roosting and breeding sites were observed in or near the project corridor.

### 4.4.3 Permanent Lights

The same effects (i.e., none) described for the Portable Lights would be anticipated under the Permanent Lights alternative.

## 4.5 Cultural Resources

### 4.5.1 No Action

Implementation of the No Action alternative would require additional or increased frequency of nighttime patrol efforts and possibly off-road apprehension efforts. Although no sites considered to be potentially eligible for inclusion to the NRHP have been recorded in the immediate project corridor, significant sites are known to occur in the vicinity. Increased patrols and off-road apprehensions required because of the lack of deterrence afforded by portable lights could possibly damage these and other unknown sites. The magnitude of these effects would vary depending upon the actual increase, the area required to be patrolled, and the number and type (e.g., vehicle, foot, horse) of off-road apprehensions.

### 4.5.2 Portable Lights

No cultural resources sites that are considered to be potentially eligible for inclusion to the NRHP have been found in the project corridor. Therefore, no effects to cultural resources would occur.

### 4.5.3 Permanent Lights

No cultural resources sites that are considered to be potentially eligible for inclusion to the NRHP have been found in the project corridor. Therefore, no effects to cultural resources would occur.

## 4.6 Air Quality

### 4.6.1 No Action

No additional emissions from portable generators would occur under this scenario. However, any increases in patrol and apprehension efforts that would be required would increase fugitive dust and hydrocarbon emissions from vehicle operations. The magnitude of these effects cannot be quantified at the present.

### 4.6.2 Portable Lights

Low amounts of air emissions are caused by the generators necessary to run the portable lighting systems. These generators would be expected to be in operation approximately 12 hours per day for each lighting system (approximately 18,810 total hours per month). The portable lighting units proposed by the Naco Station are Lister Pieter Model LPW3 and Magnum Night Buster 4000 Light Tower Model 3LB1. These lighting systems consist of a 6-kilowatt diesel generator that powers four 1000-watt lights on a 15-foot mast. Table 4-1 illustrates the maximum air emissions expected from the portable light generators.

**Table 4-1**
**Emission Factors for Diesel Powered Generators**

| Pollutant | Emission Factors (tons/year) |
|---|---|
| Exhaust hydrocarbons | 0.0054 |
| Carbon monoxide (CO) | 0.0146 |
| Nitrogen oxides ($NO_x$) | 0.0679 |
| Aldehydes | 0.0010 |
| Sulfur oxides ($SO_x$) | 0.0045 |
| Carbon dioxide ($CO_2$) | 2.5404 |
| Particulate matter ($PM_{10}$) | 0.0048 |

Source: USEPA 1995.

These amounts are below the *de minimus* thresholds and thus would not violate National or state standards.

### 4.6.3 Permanent Lights

This alternative would result in temporary fugitive dust and hydrocarbon emissions generated by construction equipment and vehicles. However, upon completion of the installation, ambient conditions would return within a few weeks. No long-term effects would be expected since operation of the permanent lights would not result in emissions.

## 4.7 Water Resources

### 4.7.1 No Action

Implementation of the No Action alternative would have no effect on the region's water resources.

### 4.7.2 Portable Lights

The potential for water contamination in the project area does exist under the Portable Lights alternative. The self-contained portable lights are powered with diesel engines and would require refueling every day prior to the next night's operation. This would create the risk of POL spills and therefore, the potential for surface and ground water contamination. While there is a risk, mitigation measures (e.g., catch pans, routine maintenance) would be used to prevent accidents from occurring. Furthermore, the portable lights would not be placed in or adjacent to drainages to reduce the potential of surface water contamination in the event of an accidental spill.

### 4.7.3 Permanent Lights

No significant effects to surface or groundwater resources would be expected upon installation of the permanent lights. Some temporary impacts could occur during construction, particularly if the powerlines are installed underground; however, these effects would be expected to be minimal and short-term.

## 4.8 Socioeconomics

### 4.8.1 No Action

No direct effects to socioeconomic resources would occur under the No Action alternative. Indirect effects due to the lack of deterrence to illegal aliens and smugglers and the reduced capability of the USBP agents to apprehend illegal entrants would include increased crime, loss of property, and costs of social programs.

### 4.8.2 Portable Lights

No effects to population, employment or housing would occur under the Portable Lights alternative. Some beneficial, but slight, impacts to local income and sales would result from the purchase of POL to operate and maintain the generators. The diesel portable lighting units are scheduled for operation for 12 hours per day. Though these units will probably not be purchased locally, the fuel for their operation would probably be supplied by local distributors. Portable lighting generators would use an average of six gallons of diesel per generator during each 12-hour shift. This would require a total of 438 gallons of diesel fuel used daily in the operation of portable lighting units. Fuel purchased locally would provide ongoing economic benefits during operation.

### 4.8.3 Permanent Lights

Under the Permanent Light alternative, no effects would be expected to the socioeconomic resources. It is envisioned that the light standards would be installed by either military units from Joint Task Force Six (JTF-6) or Arizona National Guard or under contract to the Arizona Power Service and, therefore, no additional employment would be incurred. Materials to construct and install the light standards and lighting fixtures would be purchased outside of the region, and thus, no additional sales would be generated to local merchants.

### 4.8.4 Environmental Justice

Executive Order 12898 of February 11, 1994, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" required each Federal agency to identify and address, as appropriate, disproportionate adverse effects of its proposed actions on minority populations and low-income communities.

The racial mix of Cochise County is about 90% Caucasians, and less than half (34%) of the entire county population claim to be of Hispanic origin. The project proposed would not displace residences or commercial structures in any community along the Naco corridor. Therefore, disproportionate effects to minority populations would not be expected.

Cochise County has about 21% of its total population living at or below poverty levels. The 1997 per capita personal income was estimated to be about $17,000, which indicated a 28% increase since 1990. It is likely that some of the portable lighting may be within or near low-income neighborhoods. The location of these lights, however, is selected based on the frequency and intensity of illegal drug traffic and numbers of UDAs and the need to protect these specific areas from illegal entry. As mentioned earlier, no homes or commercial structures have been displaced by INS infrastructure projects. Consequently, no disproportionate adverse effects to low-income populations would be expected from the implementation of this proposed action.

In addition, none of the viable alternatives are expected to generate disproportionately high environmental health and safety risks to children as specified by Executive Order 13045, "Protection of Children from Environmental Health Risks." This Executive Order 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.

## 4.9 Noise

### 4.9.1 No Action

The No Action alternative would not result in any perceptible increase in ambient noise levels. Increased patrols and apprehension efforts would be required to provide a similar level of deterrence, but these actions would produce minimal noise levels.

### 4.9.2 Portable Lights

Portable generators for lights would create more of a long-term exposure to increased noise. These increases would occur at night, thereby affecting the ambient day-night average sound level (DNL) of the area. These lights would be used primarily in rural areas where access to electrical power sources is not readily available and, thus, away from most residential areas.

The self-contained generators would produce additional noise and raise the ambient noise levels slightly. The greatest increase would occur in the far eastern and western portions of the project corridor, away from the urban areas surrounding the Naco POE. However, since the portable lights would be used intermittently and moved to various locations on an as-needed basis, the effects of noise would be minor, localized, and temporary. No noise sensitive receptors are located in proximity to the proposed portable light generators that would be affected by the proposed operation.

### 4.9.3 Permanent Lights

Construction of permanent lights along the 10.5-mile corridor would result in temporary increases in noise levels due to construction equipment and vehicles. Once the installation of the light standards and fixtures were complete, the noise levels would be expected to immediately return to ambient conditions. Electrical lights may produce an electrical hum or buzz; however, noise amounts are expected to be minor. Operation of the permanent lights would not result in increased noise.

## 4.10 Cumulative Impacts

This section of the EA addresses the cumulative impacts associated with the proposed portable lights project and other projects/programs that are planned for the region. Following a general discussion regarding cumulative effects that would be expected irrespective of the alternative selected, the various resources that would be impacted are addressed within each alternative discussion.

The USBP and other entities are currently planning or conducting several projects in the region. A new USBP station is currently being planned and designed; the exact location and size is not known at this time, but is expected to require up to 25 acres. Additional lights and vehicle barriers are being planned for reaches in the western part of the Naco Station's AO. These actions are in the very early stages of planning and will have to be closely coordinated with the BLM, USFS, USFWS, and Native American Nations to ensure that sensitive resources are avoided to the extent practicable.

Also, the Southern Pacific railway that was once abandoned could be reactivated. Reactivation of this abandoned rail line and crossing near Naco would result in additional habitat losses, even though the rail would probably be constructed along the existing, but abandoned, line. The tracks were removed in 1975 and thus have had ample time to revegetate. Reactivation of the line would also increase noise in the immediate vicinity and increase potential health and safety risks due to transportation of hazardous cargo (USACE 2000).

Currently, the USBP is renovating the landing mat fence on either side of the Naco POE to provide a vertical extension that will reduce the number of illegal aliens climbing the fence. Road improvements and additional landing mat fence and vehicle barriers are also currently being constructed. Portions of the vehicle barriers on the east side of the Naco POE are planned to be converted to landing mat fence in the near future. According to the EA prepared for these projects (USACE 2000), a maximum of 0.4 acres would be disturbed by these actions.

As mentioned previously, the Naco Station is also planning to install eight additional RVS towers this year (2001) and will soon begin the planning for a new Station. The RVS

towers would disturb 36 to 300 square feet each, depending upon the design selected for the towers (e.g., monopole, 3-legged steel lattice, etc.). The new USBP Station is anticipated to require up to 25 acres; the site location, site development plan, or schedule for completion of this project is not known at this time.

### 4.10.1 No Action

The No Action alternative would result in no additional direct effects to the area's resources. Impacts that have directly resulted from INS/USBP activities within the Naco Corridor have been discussed in the previous sections and in the EA for Infrastructure within USBP Naco-Douglas Corridor, Cochise County, Arizona (INS 2000). No threatened or endangered species or critical habitat has been affected, nor have there been any adverse effects on cultural resources sites or historic structures that are listed or potentially eligible for listing on the NRHP. Air quality has been temporarily affected by construction activities, but due to good dispersion factors in the region and the short duration of most construction activities, no long-term adverse impacts to the region's airshed are expected to occur.

Long-term indirect cumulative effects have occurred and would continue to occur. However, these effects, both beneficial and adverse, are difficult, if not impossible, to quantify. Reductions in habitat have undoubtedly created inter- and intra-species competition for available food and shelter and, eventually, slight reductions in some wildlife populations. Increased patrol activities would increase the potential for some wildlife specimens to be accidentally hit and killed. Such losses would not be expected to result in significant reductions to the populations.

Positive cumulative benefits have resulted from INS activities as well. Additional knowledge regarding threatened or endangered species' locations, distribution, and life requisites has been obtained through surveys and monitoring efforts associated with INS construction projects.

It is highly likely that UDAs and smugglers will attempt to avoid the lighted areas by choosing to enter areas that are remote and foreboding. USBP would patrol areas of darkness in the project area for UDAs trying to avoid lit areas. This would reduce indirect

effects to sensitive areas, while safeguarding aliens from the environment. Lives have been lost because persons were not adequately prepared for the harsh desert environment; the possibility of other deaths to occur would increase as people take greater chances. However, the detection and apprehension mission of INS has evolved to include the cooperation and coordination with other emergency services to rescue illegal entrants before they get into life-threatening situations. In fact, such rescues have become a daily occurrence along the border.

### 4.10.2 Portable Lights

Implementation of this alternative would have similar cumulative effects as the No Action alternative regarding past INS actions and future proposed actions by other agencies and companies. Disturbances to soils and habitats by INS activities would be increased relative to the No Action alternative. Again, given the rural nature of the Naco Corridor, the intermittent use of the portable lights, and the vast acres of wildlife habitat in the region, the total cumulative impact would still be considered minimal. Furthermore, this amount is considered worst case scenario and most of the disturbance would occur within areas that are already heavily disturbed by on-going or past activities.

The increase in lights along the border could produce some long-term cumulative effects, although the magnitude of these effects in some areas is not presently known and would depend upon the location and duration of the lights. Some species, such as insectivorous bats, may benefit from the concentration of insects that would be attracted to the lights. Long-term effects from the increase in lighting along the border are expected to be insignificant.

### 4.10.3 Permanent Lights

Implementation of the Permanent Lights alternative would increase the amount of soil disturbance and construction activity required to complete this project. Installation of permanent lighting was considered regarding the potential increase for raptors to be electrocuted or to become entangled in overhead powerlines. Although injuries and deaths to raptors due to collision with powerlines and support (guide) wires do occur, studies have indicated these structures do not present a major problem. The relative

infrequency of collisions is due to the high visual acuity of raptors and the large size of transmission line conductors (Raptor Research Foundation 1996).

Many of the same effects from the Portable Lights alternative would be the same for this alternative; however, more surface area would be affected.

# SECTION 5.0
# ENVIRONMENTAL MITIGATION MEASURES

## 5.0 ENVIRONMENTAL MITIGATION MEASURES

This chapter describes environmental design measures that would be implemented as part of the use of portable lights along the U.S.-Mexico border near Naco, Arizona. Due to the limited nature of this project, impacts are expected to be slight. Therefore, mitigation measures are only described for those resources with potential for impacts.

### 5.1 Biological Resources

Impacts to existing vegetation during the use of portable lights would be minimal due to intermittent use of the lights. Existing roads would be utilized and the only vegetation to be cleared would be associated with placement of the lights and generator. If the portable lights were placed on the 202 possible sites, this would only result with the removal of 0.46 acres of vegetation.

The impacts to wildlife would be minimal due to the small amount of actual habitat loss. Although the lighting within the project area would not be constant, it does have minor effects on wildlife activities. However, the positioning of the lights would allow for some dark areas to still exist. There are large open areas within the project corridor for animals to easily relocate to adjacent areas of darkness. In addition, the portable lights would be moved periodically on an as-needed basis, thereby reducing any perceived effects to wildlife and shield would be placed over the lamps to reduce or eliminate any effects of backlighting.

There are no known Federally listed threatened or endangered species in the project area, based on surveys conducted specifically for this project, as well as other surveys conducted for prior projects (USACE 1993, 1994, 1996, and 2000).

### 5.2 Water Resources

Portable light generators will not be placed in arroyos to avoid contamination of ephemeral streams in the event of an accidental spill. Furthermore, catch pans will be placed under the generators to contain any leaks or accidental spills that might occur under normal operation or maintenance of the portable lights.

# SECTION 6.0
# PUBLIC INVOLVEMENT

# 6.0 PUBLIC INVOLVEMENT

## 6.1 Agency Coordination

This chapter discusses consultation and coordination that has occurred during preparation of the draft and final versions of this document. This includes contacts that were made during the development of the proposed action and writing of the EA. Formal and informal coordination was conducted with the following agencies:

- U.S. Fish and Wildlife Service (USFWS)
- U.S. Environmental Protection Agency (USEPA)
- Natural Resource Conservation Service (NRCS)
- Arizona State Historic Preservation Office (SHPO)
- Arizona Department of Transportation (ADOT)
- Arizona Game and Fish Department (AGFD)
- Arizona Department of Environmental Quality (ADEQ)
- Arizona Department of Agriculture
- U.S. Bureau of Land Management (BLM)

## 6.2 Public Review

The draft EA was made available for public review for a period of 30 days. Three comment letters were submitted within this review period; copies of these letters are included in Appendix A. Summaries of the comments received and the responses to these comments are presented in the following section.

The Final EA will be released to the public and a Notice of Availability (NOA) will be published in the local newspaper. Proof of publication of the NOA for the draft EA is included in Appendix A of this document.

## 6.3 Comments on Draft EA and Responses

Revisions made to this document as a result of the public review period for the Draft EA are denoted with the word "Revised" in the margin throughout the Final EA.

### 6.3.1 Arizona SHPO

**Comment:** The SHPO expressed concerns about potential impacts to NRHP-listed or NRHP-eligible sites from lighting and/or the aesthetics of the sites.
**Response:** Sections 3.5 and 4.5 of the EA states that there are no sites that are listed or considered potentially eligible for inclusion to the NRHP within the project corridor, and therefore, no effects would occur to any NRHP-listed or NRHP-eligible sites.

### 6.3.2 Tohono O'odham Nation

**Comment:** The Tohono Nation expressed concerns about diesel fuel spills from movement of the light generators.
**Response:** Sections 4.2.2, 4.7.2, and 5.2 of the Draft EA stated that precautions to avoid spills would be made by placing catch pans under the generators to collect any accidental spills. In addition, commitments were made to avoid placement of light generators within or near streambeds to reduce the potential of surface water contamination from accidental spills. Any spills that do occur in reportable quantities would be immediately reported to the appropriate agencies and clean-up actions would be implemented.

### 6.3.3 Defenders of Wildlife

**Comment:** The Defenders of Wildlife felt that there was a lack of alternatives considered and suggested that remote sensing technologies, such as remote video surveillance (RVS) systems could be used instead of portable lights.
**Response:** Portable lights facilitate the safe and effective apprehension of undocumented aliens and smugglers at night. While RVS systems certainly enhance the apprehension capability of the USBP by providing detection of UDAs and smugglers, the USBP agents must still be able to see them to effect an apprehension. Nighttime apprehensions inherently have more health and safety risks than daytime apprehension efforts. RVS systems and other remote sensing technologies would do nothing to reduce these risks. In addition, lighting provides a deterrence factor that is not realized by RVS and other remote sensing technologies. RVS systems are currently being used in the Naco area with plans to install more systems in the future (see Section 1.0).

**Comment:** The Defenders of Wildlife expressed concerns that there was inadequate consideration of environmental consequences.
**Response:** While there were no specific points made by this comment, environmental consequences for land use, soils, vegetation, wildlife, unique and sensitive areas, protected species and critical habitats, cultural resources, air quality, water resources, socioeconomics, and noise, as well as cumulative effects, have been fully addressed for each alternative in Chapter 4 of this document and again in Chapter 4 of the Environmental Assessment for Infrastructure within USBP Naco-Douglas Corridor in Cochise County, Arizona (INS 2000).

**Comment:** The Defenders of Wildlife expressed concerns about impacts to threatened and endangered species, particularly the jaguar, ocelot, jaguarundi, and the lesser long-nosed bat. There was also a concern that the lesser long-nosed bat habitat was not assessed.
**Response:** Threatened and endangered species surveys were performed along the project corridor for this particular project in May 2001 (See Section 4.4.2). No Federally listed species were found. Figure 3-10 in the EA for Infrastructure within USPB Naco-Douglas Corridor, Cochise County, Arizona (INS 2000), shows there are no known populations for threatened and endangered species within or near the project area (See Sections 3.4 and 4.4 of this EA). Surveys conducted for previous projects in the same area have also reported no Federally protected species (USACE 1993, 1994, 1996, and 2000). Furthermore, the 30 to 50 portable lights would be placed temporarily at sites along the 10.5-mile corridor on an as-needed basis. Therefore the entire corridor would not be illuminated at any given time.

According to AGFD, there have been no confirmed sightings of the three feline species in or near the project area in recent years (2001). One ocelot sighting was reported in the last two years in Mexico near Douglas, Arizona. The last confirmed sightings of the jaguar were in 1996 in the Baboquivari Mountains, approximately 100 miles to the west of the project corridor in Pima County, Arizona. There are no confirmed sightings of the jagarundi in the region (AGFD 2001, Tewes 2001).

Lesser long-nosed bat assessments performed during the field surveys in 2001 were based on the presence of the columnar cacti, which are the preferred food source, and appropriate roosting and breeding sites, caves and mines (Bat Conservation International 2001, University of Arizona 2001). No such cacti or roosting and breeding sites were observed in or near the project corridor.

**Comment:** Another concern expressed was about indirect effects from foot traffic being redirected to more environmentally sensitive areas, daily vehicle trips for refueling, and noise from generators on wildlife.
**Response:** Indirect effects from foot traffic have been addressed in Section 4.3 of this EA. Daily vehicle trips and increased patrolling of the area are addressed in the 4.10 Cumulative Effects section of this EA. The effects of noise are discussed in Sections 3.9 and 4.9 of this EA and in Sections 3.11 and 4.11 of the EA for Infrastructure within USPB Naco-Douglas Corridor, Cochise County, Arizona (INS 2000).

**Comment:** The Defenders of Wildlife indicated a lack of analysis of cumulative effects for this project.
**Response:** Section 4.10 of this EA discusses cumulative effects in the project area. This section then goes on to discuss potential cumulative effects from each of the alternatives considered in detail. The preparers sought information from Federal, state, and local governments, as well as from private firms regarding developments planned for the project vicinity. The information presented in the cumulative effects discussion is all the projects that were identified during these efforts.

**Comment:** The Defenders of Wildlife expressed concerns that mitigation measures for the project are inadequate. They suggested monitoring and allowing for changes in light placement for threatened and endangered species.

**Response:** Effects from implementing this project would be very minimal as stated in Section 4.3. Surveys were completed for threatened and endangered species in the project area, and none were identified (see Section 3.3, 3.4, 4.3, and 4.4). One active bird nest found in the project area was flagged and would be avoided during light placement (Section 3.3.2). It has been stated many times throughout the EA that lights would be placed intermittently along the border on an as needed basis and can be relocated when needed; as a result, all 10.5 miles would not be illuminated at any given time. Also, shields would be placed on the lamps to reduce or eliminate any effects of backlighting. Mitigation measures for this project can be found in Section 5.0.

**Comment:** The Defenders of Wildlife expressed concern that EA has not adequately addressed the proposed action's effects on threatened and endangered species. They are also concerned the project would violate Endangered Species Act.
**Response:** Surveys were completed for threatened and endangered species in the project area and none were identified (see Section 3.3, 3.4, 4.3, and 4.4). In addition, numerous other surveys have been performed in the same general area relative to other projects (USACE 1993, 1994,1996, 2000). Since no Federally protected species have been observed and no habitat suitable for supporting these protected species was recorded, the project was determined to have no effect on threatened or endangered species; therefore, there is no need to enter into formal consultation with the USFWS under Section 7 of the ESA. The field team did however record and flag one active bird nest in the project area. In compliance with the Migratory Bird Treaty Act, this nest would be avoided during light placement (Section 3.3.2).

# SECTION 7.0
# REFERENCES

## 7.0 REFERENCES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# SECTION 8.0
# ACRONYMS/ABBREVIATIONS

## 8.0 LIST OF ACRONYMS/ABBREVIATIONS

| | |
|---|---|
| ADEQ | Arizona Department of Environmental Quality |
| ADOT | Arizona Department of Transportation |
| AGFD | Arizona Game and Fish Department |
| AO | Area of operation |
| BLM | Bureau of Land Management |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| CO | Carbon monoxide |
| dBA | decibel |
| DNL | Day-night average sound level |
| EA | Environmental Assessment |
| E.O. | Executive Order |
| ER | Export Restricted |
| ESA | Endangered Species Act |
| $ft^2$ | square feet |
| GAO | Government Accounting Office |
| HR | Harvest Restricted |
| HS | Highly Safeguarded |
| INS | Immigration and Naturalization Service |
| JTF-6 | Joint Task Force Six |
| $\mu g/m^3$ | Micrograms per cubic meter |
| lbs | Pounds |
| $mg/m^3$ | Milligrams per cubic meter |
| mph | Miles per hour |
| NAAQS | National Ambient Air Quality Standards |
| NCA | National Conservation Area |
| NEPA | National Environmental Policy Act of 1969 |
| NMFS | National Marine Fisheries Service |
| NRHP | National Register of Historic Places |
| NRCS | Natural Resource Conservation Service |
| NOA | Notice of Availability |
| $NO_2$ | Nitrogen Dioxide |
| $O_3$ | Ozone |
| OAQPS | Office of Air Quality Planning and Standards |
| $PM_{10}$ | Particulate matter measuring less than 10 microns |
| PCPI | Per Capita Personal Income |
| Pb | Lead |
| POE | Port of Entry |
| POL | Petroleum, oils or lubricants |
| ppm | Parts per million |
| RVS | Remote Video Surveillance |
| SA | Salvage Assessed |
| SHPO | Arizona State Historic Preservation Office |
| SR | Salvage Restricted |
| $SO_2$ | Sulfur dioxide |
| TPI | Total Personal Income |
| UDA | Undocumented Aliens |
| USACE | U.S. Army Corps of Engineers |
| USBP | U.S. Border Patrol |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Service |

# 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 |
|---|---|---|---|---|
| Eric Verwers | INS A-E Resource Center | Biology, BS | 14 years in NEPA and related studies | Program manager and EA review and coordination |
| Chris Ingram | Gulf South Research Corporation | Biology/Ecology, MS | 22 years EA/EIS studies | Impact analysis and EA review |
| Suna Adam Knaus | Gulf South Research Corporation | Forestry/Wildlife, BS | 14 years natural resources | EA review |
| Sharon Newman | Gulf South Research Corporation | GIS/Graphics | 6 years GIS experience | Graphics |
| Kate Koske | Gulf South Research Corporation | Forestry/Wildlife, BS | 2 years in NEPA and related studies | Project Manager and field investigations |

# *APPENDIX A*
# *CORRESPONDENCE*

**U.S. Department of Justice**
Immigration and Naturalization Service
Architect-Engineer Resource Center

*Attention: CESWF-PM-INS*
*819 Taylor Street, Room 3A28*
*P.O. Box 17300*
*Fort Worth, TX 76102-0300*

May 31, 2001

Mr. David Harlow, Field Supervisor
U.S. Fish and Wildlife Service
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021-4951

Dear Mr. Harlow:

The Immigration and Naturalization Service (INS) intends to prepare an Environmental Assessment (EA) addressing U.S. Border Patrol (USBP) activities within the Naco Station Area of Operation, USBP Tucson Sector. This EA will address the potential effects of the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately three miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The potential to use these lights was addressed as a future project in the Environmental Assessment for Infrastructure within U. S. Border Patrol Naco-Douglas Corridor Cochise County, Arizona, which was finalized in August 2000. Consequently, this EA will be tiered from the previous EA. However we are currently in the process of gathering the most current information available regarding Federal and state listed species potentially occurring near Naco, Cochise County, Arizona.

Our most current list of Federally threatened or endangered species that potentially occur in Cochise County is included as Attachment A. Please review this list for accuracy and completeness. The INS Architect-Engineer Resource Center (AERC) respectfully requests that your agency provide a list and/or description of the sensitive resources (e.g., protected species, critical habitat, unique plant communities, etc.) that you believe may be affected by the proposed maintenance activities in the project area. We intend to provide your agency with a copy of the Draft EA once it is completed. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. If you have any questions regarding this project, please contact me by phone at (817) 978-0202.

Sincerely,

Eric Verwers, Assistant Director
Immigration and Naturalization Service
A/E Resource Center

**U.S. Department of Justice**
Immigration and Naturalization Service
Architect-Engineer Resource Center

*Attention: CESWF-PM-INS*
*819 Taylor Street, Room 3A28*
*P.O. Box 17300*
*Fort Worth, TX 76102-0300*

May 31, 2001

Mr. Jerry Perry, Regional Supervisor
Arizona Department of Game and Fish
555 North Greasewood Road
Tucson, Arizona 85745

Dear Mr. Perry:

The Immigration and Naturalization Service (INS) intends to prepare an Environmental Assessment (EA) addressing U.S. Border Patrol (USBP) activities within the Naco Station Area of Operation, USBP Tucson Sector. This EA will address the potential effects of the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately three miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The potential to use these lights was addressed as a future project in the Environmental Assessment for Infrastructure within U. S. Border Patrol Naco-Douglas Corridor Cochise County, Arizona, which was finalized in August 2000. Consequently, this EA will be tiered from the previous EA. However, we are currently in the process of gathering the most current information available regarding Federal and state listed species potentially occurring near Naco, Cochise County, Arizona.

Our most current list of Federally threatened or endangered species that potentially occur in Cochise County is included as Attachment A. Please review this list for accuracy and completeness. The INS Architect-Engineer Resource Center (AERC) respectfully requests that your agency provide a list and/or description of the sensitive resources (e.g., protected species, critical habitat, unique plant communities, etc.) that you believe may be affected by the proposed maintenance activities in the project area. We intend to provide your agency with a copy of the Draft EA once it is completed. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. If you have any questions regarding this project, please contact me by phone at (817) 978-0202.

Sincerely,

Eric Verwers, Assistant Director
Immigration and Naturalization Service
A/E Resource Center

# THE HOPI TRIBE

**Wayne Taylor, Jr.**
CHAIRMAN

**Phillip R. Quochytewa, Sr.**
VICE-CHAIRMAN

July 2, 2001

William Fickel, Jr., Chief, Planning, Environmental and Regulatory Division
Department of the Army, Fort Worth District, Corps of Engineers
P.O. Box 17300
Fort Worth, Texas 76102-0300

Dear Mr. Fickel,

This letter is in response to your correspondence to Chairman Taylor dated June 19, 2001, regarding the Fort Worth District, Corps of Engineers acting on behalf of the Immigration and Naturalization Service/U.S. Border Patrol, in the proposed placement and operation of 202 portable generated lights within the Naco Substation area of operation. As you know from our previous correspondences, the Hopi Tribe claims cultural affiliation to prehistoric cultural groups in southern Arizona, and therefore we appreciate your continuing solicitation of our input and your efforts to address our concerns.

Because the portable generated lightning systems require no ground disturbing activities, the Hopi Cultural Preservation Office concurs that the probability of this project affecting cultural resources appears to be low. However, we recommend that if any cultural features or deposits are encountered during project activities, these activities must be discontinued in the immediate area of the remains and a qualified archaeologist must be consulted to evaluate their nature and significance. If any Native American human remains or funerary objects are discovered they must be reported as required by law.

If you have any questions or need additional information, please contact Terry Morgart at 520-734-3767. Thank you again for your consideration.

Respectfully,

Leigh J. Kuwanwisiwma, Director
Cultural Preservation Office

cc: Office of the Chairman
Arizona State Historic Preservation 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 19, 2001

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Placement and Operation of Portable Generated Lights within the Naco Station Area of Operation

Honorable Delia Carlyle, Chairperson
Ak Chin Indian Community Council
42507 W. Peters & Nall Road
Maricopa, AZ 85239

Dear Chairperson Carlyle:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to proposed project mentioned above in the vicinity of Naco, Arizona. As part of our on-going consultation in this area, we wish to solicit your comments on this project. This proposed project is the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately 3 miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The enclosed maps illustrate the area of the proposed placement of lights.

The INS intends to prepare an Environmental Assessment (EA) addressing USBP activities within the Naco Station Area of Operation. The EA will identify potential sites for the acquisition, installation, and operation of this portable light system near Naco, Arizona.

The portable generated lighting systems require no ground disturbing preparation for their placement; they are moved into place by truck and are serviced by USBP agents.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 978-6390. Thank you for your assistance with this project.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

**DEPARTMENT OF THE ARMY**
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

June 19, 2001

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Placement and Operation of Portable Generated Lights within the Naco Station Area of Operation

Honorable Donald R. Antone, Governor
Gila River Indian Community Council
P.O. Box 97
Sacaton, AZ 85247

Dear Governor Antone:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to proposed project mentioned above in the vicinity of Naco, Arizona. As part of our on-going consultation in this area, we wish to solicit your comments on this project. This proposed project is the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately 3 miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The enclosed maps illustrate the area of the proposed placement of lights.

The INS intends to prepare an Environmental Assessment (EA) addressing USBP activities within the Naco Station Area of Operation. The EA will identify potential sites for the acquisition, installation, and operation of this portable light system near Naco, Arizona.

The portable generated lighting systems require no ground disturbing preparation for their placement; they are moved into place by truck and are serviced by USBP agents.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 978-6390. Thank you for your assistance with this project.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

**DEPARTMENT OF THE ARMY**
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

June 19, 2001

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Placement and Operation of Portable Generated Lights within the Naco Station Area of Operation

Honorable Wayne Taylor, Jr., Chairman
Hopi Tribal Council
P.O. Box 123
Kykotsmovi, AZ 86039

Dear Chairman Taylor:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to proposed project mentioned above in the vicinity of Naco, Arizona. As part of our on-going consultation in this area, we wish to solicit your comments on this project. This proposed project is the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately 3 miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The enclosed maps illustrate the area of the proposed placement of lights.

The INS intends to prepare an Environmental Assessment (EA) addressing USBP activities within the Naco Station Area of Operation. The EA will identify potential sites for the acquisition, installation, and operation of this portable light system near Naco, Arizona.

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 978-6390. Thank you for your assistance with this project.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

**DEPARTMENT OF THE ARMY**
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

June 19, 2001

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Placement and Operation of Portable Generated Lights within the Naco Station Area of Operation

Honorable Ivan Makil, President
Salt River Pima-Maricopa Indian Community Council
10005 E. Osborn
Scottsdale, AZ 85256

Dear President Makil:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to proposed project mentioned above in the vicinity of Naco, Arizona. As part of our on-going consultation in this area, we wish to solicit your comments on this project. This proposed project is the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately 3 miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The enclosed maps illustrate the area of the proposed placement of lights.

The INS intends to prepare an Environmental Assessment (EA) addressing USBP activities within the Naco Station Area of Operation. The EA will identify potential sites for the acquisition, installation, and operation of this portable light system near Naco, Arizona.

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 978-6390. Thank you for your assistance with this project.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

**DEPARTMENT OF THE ARMY**
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P O BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

June 19, 2001

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Placement and Operation of Portable Generated Lights within the Naco Station Area of Operation

Honorable Raymond Stanley, Jr., Chairman
San Carlos Tribal Council
P.O. Box 0
San Carlos, AZ 85550

Dear Chairman Stanley:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to proposed project mentioned above in the vicinity of Naco, Arizona. As part of our on-going consultation in this area, we wish to solicit your comments on this project. This proposed project is the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately 3 miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The enclosed maps illustrate the area of the proposed placement of lights.

The INS intends to prepare an Environmental Assessment (EA) addressing USBP activities within the Naco Station Area of Operation. The EA will identify potential sites for the acquisition, installation, and operation of this portable light system near Naco, Arizona.

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**DEPARTMENT OF THE ARMY**
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

June 19, 2001

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Placement and Operation of Portable Generated Lights within the Naco Station Area of Operation

Honorable Edward Manuel, Chairman
Tohono O'odham Nation
P.O. Box 837
Sells, AZ 85634

Dear Chairman Manuel:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to proposed project mentioned above in the vicinity of Naco, Arizona. As part of our on-going consultation in this area, we wish to solicit your comments on this project. This proposed project is the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately 3 miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The enclosed maps illustrate the area of the proposed placement of lights.

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If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 978-6390. Thank you for your assistance with this project.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

If you require additional information or have any questions, please contact Ms. Patience Parterson at (817) 978-6390. Thank you for your assistance with this project.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

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INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

**DEPARTMENT OF THE ARMY**
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

June 19, 2001

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Placement and Operation of Portable Generated Lights within the Naco Station Area of Operation

Honorable Dallas Massey, Sr., Chairman
White Mountain Apache Tribal Council
P.O. Box 700
Whiteriver, AZ 85941

Dear Chairman Massey:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to proposed project mentioned above in the vicinity of Naco, Arizona. As part of our on-going consultation in this area, we wish to solicit your comments on this project. This proposed project is the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately 3 miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The enclosed maps illustrate the area of the proposed placement of lights.

The INS intends to prepare an Environmental Assessment (EA) addressing USBP activities within the Naco Station Area of Operation. The EA will identify potential sites for the acquisition, installation, and operation of this portable light system near Naco, Arizona.

The portable generated lighting systems require no ground disturbing preparation for their placement; they are moved into place by truck and are serviced by USBP agents.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 978-6390. Thank you for your assistance with this project.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

June 19, 2001

Planning, Environmental and Regulatory Division

SUBJECT: Immigration Naturalization Service (INS) /U.S. Border Patrol (USBP), Tucson Sector, Placement and Operation of Portable Generated Lights within the Naco Station Area of Operation

Mr. James Garrison, State Historic Preservation Officer
ATTN: Joanne Miller
Arizona State Parks
1300 West Washington
Phoenix, Arizona 85007

Dear Mr. Garrison:

The U.S. Army Corps of Engineers, Fort Worth District (COE), is acting on behalf of INS in regard to proposed project mentioned above in the vicinity of Naco, Arizona. We wish to initiate the coordination process for this project as noted in 36 CFR Part 800.3. This proposed project is the placement and operation of 202 portable generated lights. Starting at the Naco Port of Entry (POE), 67 portable lights will extend approximately 3 miles to the east, and 135 portable lights will extend approximately 7.5 miles to the west. The enclosed maps illustrate the area of the proposed placement of lights.

The INS intends to prepare an Environmental Assessment (EA) addressing USBP activities within the Naco Station Area of Operation. The EA will identify potential sites for the acquisition, installation, and operation of this portable light system near Naco, Arizona.

The portable generated lighting systems require no ground disturbing preparation for their placement; they are moved into place by truck and are serviced by USBP agents.

If you require additional information or have any questions, please contact Ms. Patience Patterson at (817) 978-6390. Thank you for your assistance with this project.

Sincerely,

William Fickel, Jr.
Chief, Planning, Environmental
and Regulatory Division

Enclosures

Copy Furnished w/o enclosure:

Mr. Eric Verwers
INS Architect/Engineer Resource
819 Taylor St. Room 3A28
Fort Worth, TX 76102-0300

Mr. Gilbert Estrada
Tucson Sector Headquarters,
1970 West Ajo Way
Tucson, Arizona 85713

**Patterson, Patience E SWF**

**From:** Joanne Miller [jmiller@pr.state.az.us]
**Sent:** Thursday, July 19, 2001 7:22 PM
**To:** Patience Patterson
**Subject:** Portable Lights, Naco, AZ

July 19, 2001

Re: Consultation on Placement of Portable Lights, Naco, AZ

Paddie:

Will these lights be placed within site boundaries of any Register eligible sites? If so, have you considered the potential effects of trucks driving onto and unloading/ lights and associated equipment within site boundaries?

Will any lights be placed within the visual ape of any Register eligible historic sites/buildings? If so, what does one of these lights look like - what is the size/scale? Would there be any visual effect of the light(s) on a Register eligible building/structure?

What is your finding of project effect for 1) ape for ground disturbance and 2) for ape for visual impacts of the light fixture and the light it would cast on any historic building/structure?

THX,
Jo ANne

P.S. I will be out of the office from pm Friday 7/20 until August 6 at a workshop here in town.

# TOHONO O'ODHAM NATION

CULTURAL AFFAIRS DEPARTMENT

P.O. BOX 837 · SELLS, AZ 85634

Telephone (520) 383-3622


July 27, 2001

Patience Patterson
Department of the Army
Fort Worth District, Corps of Engineers
P.O. Box 17300
Fort Worth, Texas
76102-0300

Dear Patience Patterson:

Thank you for the opportunity to review and comment on the proposed Portable Lights Project with the Naco Corridor, Cochise County, Arizona Draft Environmental assessment.

The Cultural Affairs Office of the Tohono O'odham Nation has the following comments:

1) Please send copies of (INS 2000)
   Report (EA for USBP infrastructure along Naco-Douglas corridor in Cochise County, Arizona) page 3-12

2) Please send copies of (USAC 2001)
   Mentioned on page 3-12

   Relocation and assessment of Thirty-One sites along the U.S.-Mexico Border.

3) Does not believe cultural resource sites will be impacted by this project.

4) Have concerns about diesel fuel spills from generators with all the moving of light units.

Sincerely,

Peter L. Steere
Manger, Cultural Affairs

Southwest Office
[illegible] South Country Avenue
Tucson, Arizona 85701-2215
Telephone: 520-623-WOLF
Fax: 520-[illegible]

National Headquarters
1101 Connecticut Street, N.W.
Suite 1400
Washington, D.C. 20005
Telephone: 202-682-9400
Fax: 202-682-1331
www.defenders.org
www.wildplanet.org

Via Fax and Mail

August 9, 2001

Mr. Charles Parsons
INS Environmental Officer
INS Western Region
24000 Avila Road
Laguna Niguel, CA 92607

Re: Draft Environmental Assessment, Portable Lights within the Naco Corridor, USBP Station, Naco, Arizona

Dear Mr. Parsons:

Thank you for the opportunity to provide comments on the draft Environmental Assessment (EA) for the proposed portable light project within the Naco Corridor of the US-Mexico border. Defenders of Wildlife and the Center for Biological Diversity have a long-standing interest in the natural environment of the border regions of the southwestern United States. Activities of the Immigration and Naturalization Service (INS) and the Border Patrol have significant adverse impacts on these species and their habitat; it is our belief that these comments will inform the continued preparation of the alternatives, environmental consequences and mitigation measures for this proposed project.

The INS must supplement this EA before issuing a Final EA because there is little or no support for a finding of no significant impact. The INS's environmental impacts analyses in this EA are flawed and omit comprehensive consideration of direct, indirect and cumulative impacts, of mitigation measures, and of impacts to threatened and endangered species.

## Background

The National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq., "is our basic national charter for protection of the environment." 40 C.F.R. § 1500.1(a). Its purpose is to "promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man," 42 U.S.C. § 4321, and to "help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore and enhance the environment." 40 C.F.R. § 1500.1(c).

Section 102(2) of NEPA contains action-forcing provisions, aimed at fulfilling NEPA's intent, that require all federal agencies, in this case the INS, to prepare an environmental impact statement for "major Federal actions significantly affecting the quality of the human environment" that includes "the environmental impact of the proposed action," "any adverse environmental effects which cannot be avoided," and "alternatives to the proposed action." Id. § 4332(2)(C). An Environmental Assessment aids the agency's compliance with NEPA, but still must evaluate alternatives and the environmental impacts of the proposed action and alternatives. 40 C.F.R. § 1508.9.

Inadequate consideration of alternatives

CEQ regulations call on the INS to "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated," "[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits," "[i]nclude the alternative of no action," and "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives." Id. § 1502.14 (emphasis added).

There is inadequate discussion of possible alternatives to this proposed action. This EA only discusses the possibility of installing light systems, or not. There is some discussion of the number of lights to be installed, how these lights will be fueled, and whether they should be portable or permanent. However, there is no consideration of less-intrusive alternatives available to the Border Patrol such as remote sensing and video surveillance that would likely be more effective than portable light systems and would be less intrusive to wildlife.

In fact, the necessity of this proposed action, especially in light of other alternatives available to the Border Patrol, is under serious question. It is admitted several times in this EA that "[i]t is highly likely that UDAs and smugglers will attempt to avoid the lighted areas by choosing to enter areas that are remote and foreboding." (p. 4-14) It is also stated that this proposed action will not have a significant impact on mobile wildlife species because, "[g]iven the vast open area within the project corridor, animals can easily relocate to adjacent areas of darkness." (p. 4-5) If this is truly the case, it seems highly unlikely that this action will have any impact on the attempts of USBP to gain, maintain and extend control of the border, which is the stated purpose of this project.

Inadequate Consideration of Environmental Consequences

The environmental consequences section "forms the scientific and analytic basis" for the comparison of alternatives. Id. § 1502.16. This section discusses the direct and indirect effects of the alternatives, the significance of the environmental effects, and the means to mitigate adverse impacts. Id. Direct effects are caused by the action and occur at the same time and place, id. § 1508.8, and indirect effects are "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." Id.

As an essential element of this analysis, NEPA's implementing regulations also require agencies to thoroughly examine and assess the cumulative impacts of their activities – i.e., "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency ... or person undertakes such other actions." 40 C.F.R. § 1508.7.

Direct Impacts to Threatened and Endangered Species and Other Wildlife Is Incomplete

There are several potentially severe negative impacts to threatened and endangered species that would result from the implementation of the proposed action. The most severe direct impacts include disruption of migration patterns of endangered cross-border species such as the jaguar, ocelot and jaguarundi and harassment of endangered nocturnal species, including the lesseor long-nosed bat.

For example, it is believed that ocelot and jaguarundi populations north of the border are replenished by individuals from northern Mexico. High intensity lights could very well impede this replenishment and contribute to the further decline of U.S. populations of these species. Similarly, there have been several documented sightings of jaguars in the U.S. near the border area, indicating that the cats are using cross-border wildlife corridors to utilize the northern edge of their range. The use of high intensity lights will impede their movement into this area. This type of habitat fragmentation is of particular concern because, by impeding the cross-border movements of animals, it may interfere with species recovery efforts on both sides of the border.

Additionally, contrary to the statement that "no such [protected] species have been documented in previous EA for various projects within the Naco area," (p. 4-6), the 2000 EA states that prior to a proposed project of 11.5 miles of lights in the Naco corridor (which is assumed to be the proposed action in question) there would be an assessment to determine potential impacts to lesser long-nosed bats and their feeding areas. *See* EA for Infrastructure within USBP Naco-Douglas Corridor, at 4-20. However, there's no mention of the bat in the environmental impact section in this EA, whether there was one or more surveys for the bat, or for the bat's feeding, breeding or roosting areas, or when they were completed.

Finally, conclusions of "no significant impact" can be found in almost every subsection under the "Environmental Consequences" section of the EA. However, there is not enough information included concerning how these conclusions were reached to provide for an informed decision. For example, the EA concludes that, overall, the potential loss of wildlife habitat will be insignificant, as the maximum loss will equal .46 acres within the 10.5 mile corridor. This does not account for the increased habitat fragmentation that will be caused by these lights and the expected illumination of 200 feet from the light source in any direction.

Inadequate Consideration of Indirect Impacts

As with the consideration of direct impacts, there seems to have been very little consideration of indirect impacts that will result from this proposed project. For example, by moving migrant

foot traffic out of the Naco corridor, it could redirect this traffic into more environmentally sensitive areas, such as the nearby San Pedro National Resource Conservation Area and Coronado National Forest, thereby threatening the resources there. Simply saying that indirect impacts could happen, without description of what the effects might be, is not at all useful in determining the significance of the impacts. *See* p. 4-6. (*See also* p. 4-4 and p. 4-14)

There is also no consideration of the indirect impacts caused by daily vehicle trips to each station in order to refuel the generators and provide general maintenance. This daily traffic along unpaved roads will increase fugitive dust and hydrocarbon emissions, further habitat fragmentation, increase road kill incidents, and contribute to existing erosion problems. Finally, it is stated in the EA that the portable generators for the lights "would create more of a long-term exposure to increased noise," but there is no discussion of the indirect impacts that the noise generated by the light stations will have on wildlife.

No Analysis of Cumulative Impacts

INS has conservatively estimated that 6,900 acres of wildlife habitat on the U.S. side of the border will be affected by the construction of 2,444 miles of roads, drag roads, fences, and vehicle barriers and the installation of thousands of lights, hundreds of cameras, and boat ramps. Yet, there has been no meaningful analysis of the cumulative impacts these and all other past, present and future INS projects will have on the wildlife dependant on the border region for survival. Furthermore, there is virtually no discussion of the cumulative impacts of all actions in the area, regardless of who undertakes the action.

It is stated in this EA that the 2000 EA "addressed cumulative effects of past and reasonably foreseeable projects in the corridor and identified the action proposed herein as a potential future project in the Naco area." (p.1-1) However, since cumulative effects analysis must include consideration of all actions, "regardless of what agency or person" undertakes such action, a proper analysis would have addressed a wide variety of activities affecting the environment, including, but not limited to, past and present mining, domestic livestock grazing, residential and industrial growth in nearby areas, and Joint Task Force-Six activities. This previous EA contained no discussion of such activities or the impact these and other activities might have cumulatively on the natural resources in the area. Because the 2000 EA failed to provide quantified and detailed information regarding such impacts, the present EA must consider the site specific direct, indirect and cumulative impacts, but has also failed to do so. The only other action in the cumulative impacts section is by Southern Pacific. Because of these omissions, there has yet to be meaningful, site-specific analysis of cumulative impacts of activities in this area as required by NEPA.

For example, numerous parties have noted the lack of consideration given to the adverse impacts of INS activities on wildlife corridors for cross-border migratory species such as the jaguar, ocelot and jaguarundi. Not only is such analysis missing from the environmental consequences section, but also from the cumulative impacts section. If INS were to evaluate the impacts of its activities on the ability of migratory species to cross the border – such as the miles of border

road, fencing and lights that BP has constructed in the Naco corridor alone – in addition to that of all other entities operating in the region, including but not limited to state and local roads. residential and industrial growth, and farming and ranching, the impacts would almost certainly be deemed 'significant.'

Inadequate Mitigation Measures for Proposed Action

In addition to the adverse effects, INS must discuss mitigation measures; it is implicit in NEPA's command and the CEQ's regulations. The omission of reasonably complete discussion of mitigation measures would undermine NEPA's action forcing functions. Without such. interested parties cannot properly evaluate the severity of adverse impacts. Robertson v. Methow Valley Citizens Council, 490 U.S. 332 (1989).

Mitigation measures must cover the range of impacts of the proposal and must include such things as design alternatives, possible land use controls and other possible efforts. "Once the proposal itself is considered as a whole to have significant effects, all of its specific effects on the environment (whether or not "significant") must be considered, and mitigation measures must be developed where it is feasible to do so." Forty Most Asked Questions Concerning CEQ's NEPA Regulations, 46 Fed. Reg. 18026 (March 23, 1981). See also 40 C.F.R. §§ 1502.14(f), 1502.16(h), 1508.14. INS must propose alternatives that decrease construction impacts, esthetic intrusion, habitat destruction, adverse impact on endangered species and human presence/interference.

When developing alternatives and mitigation measures, INS should keep the following priorities in mind: a) avoid the impact by not taking the action; b) minimize the impact by limiting the action; c) rectify the impact by rehabilitation; d) reduce the impact by maintenance; and e) compensate for the impact by replacement. Avoidance is the preferable course of action because a project such as placing high-intensity lights along the border can have numerous direct, indirect and cumulative impacts.

By failing to analyze and quantify the full extent of its adverse impacts, INS has underestimated the significance of the agency's impact on the environment. Therefore, in addition to performing a cumulative impacts analysis that reveals the full range of imapcts, INS/BP must identify research and monitoring programs in order to improve future analyses of the environmental impacts of their actions. Where uncertainties exist, as at pp. 4-14 – 4-15, adaptive management allowing for flexible project implementation should be part of the preferred alternative. *See* Considering Cumulative Impacts Under NEPA (CEQ 1997) at 3. In this situation, Section 5 of the EA contains no provisions for monitoring threatened and endangered species to detect adverse reactions to 10 miles of lighting, nor does it allow for changes in the placement, direction or style of lighting if listed species were adversely impacted.

Endangered Species Act Compliance

The Endangered Species Act (ESA) requires that "[e]ach federal agency shall, in consultation

with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species . . ." 16 U.S.C. § 1536(a)(2). Until consultation is complete, at which time the Fish and Wildlife Service (FWS) issues a biological opinion detailing the agency's impacts on the species, the agency may not 'take' listed species or take actions that might foreclose alternatives less harmful to the species. Id. §§ 1538, 1536(d). Currently, the Tucson sector is operating without a biological opinion, and is in violation of the ESA. Until INS/BP initiates consultation with the FWS, which it must do immediately, INS's assertion that "[n]o threatened or endangered species or critical habitat has been affected" is debatable and its credibility in the cumulative impacts analysis of the no action alternative, negligible. (p. 4-13)

Furthermore, the EA (sections 4.10.2 & 4.10.3) omits any discussion of the cumulative impacts of the preferred alternative, as well as the permanent lights alternative, on threatened and endangered species. NEPA regulations consider the degree to which an agency action adversely impacts threatened and endangered species. 40 C.F.R. § 1508.27(b)(9). Again, INS/BP has hindered its own and the public's ability to accurately assess the significance of the impact of this proposed action. *See* id. §§ 1500.1(b), 1508.9(a)(1) (an EA should "provide sufficient evidence and analysis" for determining whether an EIS or FONSI is appropriate). INS may not select its preferred alternative until all cumulative impacts are identified, assessed and resubmitted for public comment.

Thank you again for this opportunity to comment on the draft EA. Please send all subsequent public notices or documents concerning this and other proposed INS projects to me, and please contact me at 520-623-9653 x4 or Kara Gillon at 202-682-9400 x119 if you have any questions on this matter.

Sincerely,

Jenny Neeley
Southwest Program Coordinator
Defenders of Wildlife

Daniel Patterson
Desert Ecologist
Center for Biological Diversity

# The Daily Dispatch

**530 11th Street, Douglas, AZ 85607 • (520) 364-3424**

Marissa Rivera, being first duly sworn deposes and says that she is an agent of The Daily Dispatch, a daily newspaper, published in the City of Douglas, County of Cochise, State of Arizona:

That the Notice, a copy of which is hereto attached, described as follows:

Gulf South Research Corp

USBP Station

was published daily in the entire and regular issue of said THE DAILY DISPATCH, for 1 consecutive weeks, the FIRST publication of said notice being in the issue dated July 10, 2001, and the LAST publication being in the issue dated July 10, 2001.

The deponent further says that the Notice was published in the newspaper proper, and not in a supplement thereof.

(SIGNED) Marissa Rivera

Sworn and Subscribed to me this 13 day of August, 2001.

Notary Public

OFFICIAL SEAL
LAWRENCE L. BLASKEY
NOTARY PUBLIC - ARIZONA
COCHISE COUNTY
My Commission Expires June 2, 2003

My commission expires June 2, 2003

## PUBLIC NOTICE

NOTICE OF AVAILABILITY
DRAFT ENVIRONMENTAL ASSESMENT
PORTABLE LIGHTS WITHIN THE
NACO CORRIDOR
USBP STATION NACO, ARIZONA

The public is hereby notified of the availability of the Draft Environmental Assessment (EA) for the Immigration and Naturalization Service (INS) and the U.S. Border Patrol (USBP) Portable Lights within the Naco, Arizona Corridor. This EA addresses the acquisition and operation of approximately 30 to 50 portable lights that would be deployed anywhere within the 10.5 mile corridor along the U.S./Mexico border, three miles to the east and 7.5 miles to the west of the POE at Naco, on an as needed basis. The Draft EA will be available for review at the Douglas Library, 560 E. 10th Street, Douglas, Arizona 85607. Send written comments to Mr. Charles Parsons, INS environmental Officer, 949-425-7081, INS Western Region, 24000 Avila Road, Laguna Nigel, CA 92671. Comments will be received mid August 9, 2001.

Published 7/10/2001