

GAO

Report to Congressional Requesters

November 2010

# SOUTHWEST BORDER

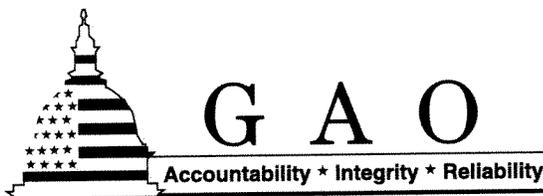
DRAFT

## More Timely Border Patrol Access and Training Could Improve Security Operations and Natural Resource Protection on Federal Lands

Notice:  
This draft is  
restricted to official  
use only.

This draft report is being provided to obtain advance review and comment. It has not been fully reviewed within GAO and is subject to revision.

Recipients of this draft must not, under any circumstances, show or release its contents for other than official review and comment. It must be safeguarded to prevent improper disclosure. This draft and all copies remain the property of, and must be returned on demand to, the Government Accountability Office.



---

---

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

---

November 2010



Highlights of GAO-11-38, a report to congressional requesters.

## Why GAO Did This Study

Over the last 5 years, Border Patrol has nearly doubled the number of its agents on patrol, constructed hundreds of miles of border fence, and installed surveillance equipment on and near lands managed by the departments of the Interior and Agriculture along the southwestern border. In so doing, the agency has had to comply with federal land management laws, and some have expressed concern that these laws may limit agents' abilities to detect and apprehend undocumented aliens. GAO was asked to examine (1) key land management laws Border Patrol operates under and how it and land management agencies coordinate their responsibilities under these laws, (2) how Border Patrol operations are affected by these laws, and (3) the extent to which land management agencies collect and use data related to the environmental effects of illegal activities, such as human trafficking and drug smuggling. GAO reviewed key land management laws, interviewed agents-in-charge at 26 Border Patrol stations responsible for patrolling federal southwest borderlands, and interviewed managers of these lands.

## What GAO Recommends

GAO recommends, among other things, that the Secretaries of Homeland Security, the Interior, and Agriculture take steps to help Border Patrol expedite access to portions of federal lands by more quickly initiating required assessments. In commenting on a draft of this report,

View GAO-11-38 or key components. For more information, contact Anu K. Mittal at (202) 512-3841 or mittala@gao.gov.

## SOUTHWEST BORDER

### More Timely Border Patrol Access and Training Could Improve Security Operations and Natural Resource Protection on Federal Lands

#### What GAO Found

When operating on federal lands, Border Patrol has responsibilities under several federal land management laws, including the National Environmental Policy Act, National Historic Preservation Act, Wilderness Act, and Endangered Species Act. Border Patrol must obtain permission or a permit from federal land management agencies before its agents can maintain roads and install surveillance equipment on these lands. Because land management agencies are also responsible for ensuring compliance with land management laws, Border Patrol generally coordinates its responsibilities under these laws with land management agencies through national and local interagency agreements. The most comprehensive agreement is a 2006 memorandum of understanding intended to guide Border Patrol activities on federal lands.

Border Patrol's access on some federal lands along the southwestern border has been limited because of certain land management laws, according to patrol agents-in-charge for 17 of the 26 stations, resulting in delays and restrictions in agents' patrolling and monitoring portions of these lands. Specifically, patrol agents-in-charge for 14 of the 17 stations reported that they have been unable to obtain a permit or permission to access certain areas in a timely manner because of how long it takes for land managers to conduct required environmental and historic property assessments. The 2006 memorandum of understanding directs the agencies to cooperate with one another to complete, in an expedited manner, all compliance required by applicable federal laws, but such cooperation has not always occurred. For example, Border Patrol requested to move surveillance equipment to an area, but by the time the land manager conducted a historic property assessment and granted permission—more than 4 months after the initial request—illegal traffic had shifted to other areas. Despite the access delays and restrictions, 22 of the 26 agents-in-charge reported that the overall security status of their jurisdiction is not affected by land management laws. Instead, factors such as the remoteness and ruggedness of the terrain have the greatest effect on their abilities to achieve operational control. Although 4 agents-in-charge reported that delays and restrictions have affected their ability to achieve or maintain operational control, they either have not requested resources for increased or timelier access or have had their requests denied by senior Border Patrol officials who said that other needs were more important.

While federal land managers in the borderlands region rely on Border Patrol to collect data on the extent of cross-border illegal activities on their lands, the extent of their data collection efforts on the effects of these illegal activities has varied. Some land managers monitor areas on a routine basis, some document environmental damage on an ad hoc basis, and still others collect no such data. Where collected, land managers have used these data for several purposes, including restoring lands and providing Border Patrol agents with environmental awareness training. With regard to training, most agents-in-charge wanted more frequent, area-specific training to be provided by land managers.

[November 2010]

## Congressional Requesters

Enhancing the security of the nation's border with Mexico has emerged as a significant policy issue, particularly on federal lands, where illegal cross-border activity threatens not only people but also natural resources. In the mid-1990s, the U.S. Border Patrol—an office within the Department of Homeland Security (DHS) that is responsible for detecting and preventing the entry of terrorists, weapons of mass destruction, and undocumented aliens—increased its personnel and resources in large urban areas along the United States-Mexico border to curtail illegal human and narcotics trafficking. With this strategy, Border Patrol successfully reduced illegal border crossings in places like San Diego, California, and El Paso, Texas. Border Patrol's strategy puts a high priority on border enforcement in urban and populated areas, which can divert large concentrations of illegal traffic to federal lands and other remote areas where vast landscapes and often rugged terrain may take days to cross—giving agents more time to detect undocumented aliens and make apprehensions.

The remoteness and harsh conditions found across much of the southwestern border, however, has not deterred illegal traffic as much as expected. Instead, it has increased substantially since the mid-1990s on federal lands managed by the Departments of the Interior and Agriculture, whose borderlands encompass over 40 percent of the 1,900 miles of southwestern border in Arizona, California, New Mexico, and Texas. Evidence has since shown that this traffic has damaged natural and cultural resources on federal lands. Specifically, federal land managers have documented thousands of miles of immigrant trails and thousands of pounds of trash—littering landscapes that have more wildlife and plant species listed under the Endangered Species Act than any other region in the continental United States. As an unintended consequence, Border Patrol's efforts to curtail illegal traffic have also degraded natural and cultural resources on these lands that were set aside for protection by past Congresses and administrations.

In response to the increase in illegal traffic on federal lands along the southwestern border, over the last 5 years, Border Patrol has nearly doubled the number of its agents on patrol, constructed hundreds of miles of pedestrian fences and vehicle barriers, and installed surveillance equipment on and near federal lands managed by the Bureau of Land Management, Fish and Wildlife Service, and National Park Service, within Interior, and the Forest Service, within Agriculture. As a result of Border Patrol's increased presence on these borderlands, some land managers have asserted that their abilities to carry out their natural resource protection responsibilities, such as limiting vehicle traffic in environmentally sensitive areas, are sometimes affected by the methods that Border Patrol agents use to carry out their homeland security responsibilities—such as patrolling and installing surveillance equipment in remote areas. While both Border Patrol and land management agency officials have acknowledged that fulfilling their respective responsibilities can work at cross-purposes, these officials also recognize that Border Patrol's presence can help protect natural and cultural resources on federal lands by deterring undocumented aliens. Border Patrol and land management agency officials have stated that interagency coordination is therefore needed in the southwestern borderlands region.<sup>1</sup>

In this context, you asked us for information on Border Patrol's operations on federal lands managed by Interior and the Forest Service along the nation's southwestern border. Accordingly, this report (1) describes the key land management laws Border Patrol operates under and how it and land management agencies coordinate their responsibilities under these laws, (2) examines how Border Patrol operations are affected by these laws, and (3) identifies the extent to which land management agencies collect data related to cross-border illegal activities and associated environmental impacts and how these data are used.

To respond to these objectives, we examined agency documents describing the laws that apply to Border Patrol operations on federal lands along the southwestern border, reviewed these key land

---

<sup>1</sup>DHS defines the borderlands region as encompassing the area extending from the United States-Mexico border north to 100 miles.

management laws, and examined documents describing how Border Patrol and land management agencies are to coordinate their responsibilities under these laws. We visited selected federal land units and Border Patrol stations responsible for patrolling these units in Arizona, California, and Texas. We selected these units, and the stations responsible for patrolling them, on the basis of geographical diversity, the extent of and impact from cross-border illegal activity, and the type of land management agency. Further, we conducted telephone interviews with land managers for federal land units along the border that we did not visit, including those in New Mexico. Although the information we obtained is not generalizable to all land units in the borderlands region, it represents the full spectrum of information available on the extent of and impact from cross-border illegal activity. We also developed and used a structured interview to obtain the views of patrol agents-in-charge, or their designees, of the 26 stations in the borderlands region that have federal lands within their jurisdictions on whether and to what extent their operations are affected by land management laws (see fig. 1).<sup>2</sup>

**Figure 1: Border Patrol Stations Where We Interviewed Patrol Agents-in-Charge and the Federal Lands They Patrol**

*Graphic being developed.*

From Border Patrol, we obtained data on enforcement actions on illegal activities that occurred from 2004 to 2009 on federal lands along the southwestern border. From land managers, we obtained data on the environmental effects of these illegal activities, as well as data on the environmental effects of Border Patrol's related response to such activities. We further obtained and analyzed environmental data used by DHS as the basis for the department's commitment to fund mitigation efforts for environmental damage caused by three border fencing projects. Additionally, we obtained a project list that land managers provided to DHS for developing the mitigation needs on their lands.

---

<sup>2</sup>In some cases, the patrol agent-in-charge designated the assistant patrol agent-in-charge or the field operations supervisor as the respondent to our structured interview because the patrol agent-in-charge was relatively new and, thus, less familiar with how land management laws may effect Border Patrol operations.

We conducted this performance audit from December 2009 through November 2010, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## **Background**

The southwestern borderlands region contains a large concentration of federally managed land and also accounts for over 97 percent of all apprehensions of undocumented aliens by Border Patrol. Over 40 percent of the United States-Mexico border, or 820 linear miles, is managed by Interior's land management agencies and the Forest Service. Each of these land management agencies has a distinct mission and set of responsibilities:

- The Bureau of Land Management manages federal land for multiple uses, including recreation; range; timber; minerals; watershed; wildlife and fish; natural scenic, scientific, and historical values; as well as for the sustained yield of renewable resources.
- The Park Service conserves the scenery, natural and historical objects, and wildlife of the national park system so they will remain unimpaired for the enjoyment of this and future generations.
- The Fish and Wildlife Service preserves and enhances fish, wildlife, plants, and their habitats, primarily in national wildlife refuges.
- Finally, the Forest Service manages lands for multiple uses, such as timber, recreation, and watershed management and to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

Border Patrol's mission is defined by the Immigration and Nationality Act, as amended, which gives the Secretary of Homeland Security the power and duty to control and guard the

boundaries and borders of the United States against the illegal entry of people who are not citizens or nationals.<sup>3</sup> To fulfill this mission, Border Patrol agents patrol federal and nonfederal lands near the border to find and apprehend persons who have illegally crossed the U.S. border. Agents carry out this mission primarily between ports of entry, located in cities such as El Paso, Texas, and San Ysidro, California, and have the authority to search, interrogate, and arrest undocumented aliens and others who are engaging in illegal activities, such as illegal entry and smuggling of people, drugs, or other contraband. Border Patrol is organized into nine sectors along the southwestern border. Within each sector, there are stations with responsibility for defined geographic areas. Of the 41 stations in the 9 southwestern border sectors, 26 have primary responsibility for the security of federal lands in the borderlands region, according to Border Patrol sector officials.<sup>4</sup>

Apprehensions of undocumented aliens along the southwestern border increased steadily through the late 1990s, reaching a peak of 1,650,000 in fiscal year 2000. Since fiscal year 2006, apprehensions have declined, reaching a low of 540,000 in fiscal year 2009. This decrease has occurred along the entire border, with every sector reporting fewer apprehensions in fiscal year 2009 than in fiscal year 2006. The Tucson Sector, however, with responsibility for central and eastern Arizona, continues to have the largest number of apprehensions (see fig. 2).<sup>5</sup> Border Patrol shares with land managers data on apprehensions and drug seizures occurring on federal land, providing such information in several ways, including in regularly occurring meetings and e-mailed reports.

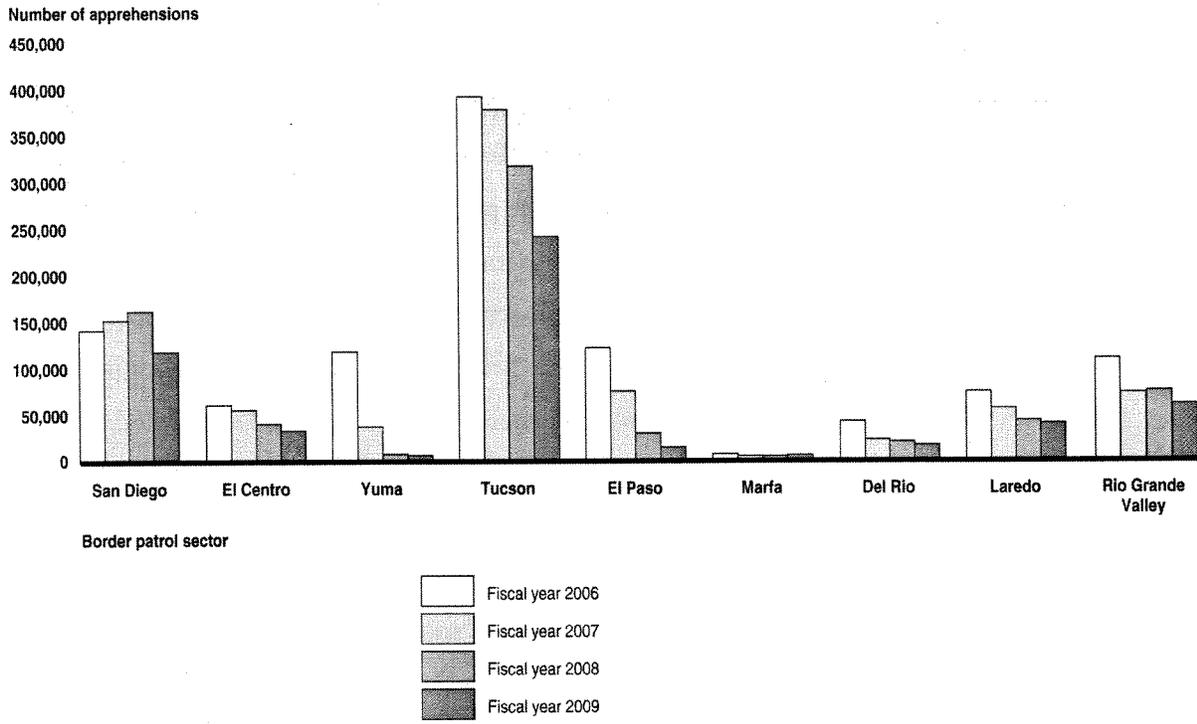
---

<sup>3</sup>8 U.S.C. §§ 1101-1537.

<sup>4</sup>Depending on size and location, individual federal borderlands may fall within one or more stations' area of patrol responsibility and across one or two sectors.

<sup>5</sup>Targeted enforcement efforts in other Border Patrol sectors in previous years caused a shift in illegal cross-border activity to the Tucson Sector, according to Border Patrol officials. The Congressional Research Service has stated that the overall borderwide decline in apprehensions is likely due to a combination of decreased opportunities for work in the United States and increased enforcement at the border. CRS, (RL32562) *Border Security: The Role of the U.S. Border Patrol* (Washington, D.C.: March 2010).

**Figure 2: Apprehensions of Undocumented Aliens along the Southwestern Border, by Border Patrol Sector, Fiscal Years 2006 through 2009**



Source: GAO analysis of Border Patrol data.

Border Patrol measures its effectiveness at detecting and apprehending undocumented aliens by assessing the border security status for a given area. The two highest border security statuses—“controlled” and “managed”—are levels at which Border Patrol claims the capability to consistently detect entries when they occur; identify what the entry is and classify its level of threat (such as who is entering, what they are doing, and how many there are); effectively and efficiently respond to the entry; and bring the situation to an appropriate law enforcement resolution, such as an arrest. Areas deemed either “controlled” or “managed” are considered by Border Patrol to be under “operational control.”<sup>6</sup>

<sup>6</sup>Border Patrol classifies an area’s border security status as one of five levels: an area is considered “controlled” when Border Patrol can deter or detect entries at the immediate border, and continual, real-time surveillance and enforcement activities result in a high probability of immediate apprehension at the border; an area is considered “managed” when sufficient Border Patrol resources are available to deter or detect entries in time to apprehend, although not always at the immediate border, and that sufficient resources exist to fully implement the sector’s border control strategy and tactics; an area is considered “remote/low activity” when the sector has not defined issues affecting Border Patrol and has not developed a meaningful Border Patrol strategy; an area is considered “low-level monitored” when detection or apprehension is inhibited by a lack of resources or infrastructure; an area is

Patrol agents-in-charge of Border Patrol stations aim to achieve operational control of their jurisdictions by deploying a mix of personnel, technology, and tactical infrastructure, such as vehicle and pedestrian fences, in urban and rural areas along the border. These activities are part of DHS's Secure Border Initiative—a multiyear, multibillion dollar program aimed at securing U.S. borders and reducing illegal immigration.<sup>7</sup> Since the program began in 2005, Border Patrol has nearly doubled the number of agents along the northern and southern U.S. borders to 20,200, with more than 17,000 agents (85 percent) on the southwestern border. According to Tucson Sector Border Patrol officials, having more agents has allowed the agency to patrol additional areas, such as remote federal lands. As part of routine operations to detect undocumented aliens, agents in remote areas typically travel on roads near the border—generally those that parallel the border east to west—several times a day in search of signs of illegal traffic, such as footprints.

In addition to the increase in the number of agents along the southwestern border over the last 5 years, DHS has spent about \$1.6 billion to provide technological resources in the borderlands region as part of the Secure Border Initiative.<sup>8</sup> These resources include surveillance technologies, such as underground sensors, cameras, and radar, among other things. For example, to assist agents in detecting illegal entries, Border Patrol uses mobile surveillance systems (see fig. 3). These systems are mounted on trucks outfitted with towers that have infrared cameras and live video feeds for detecting suspected undocumented aliens. Once an entry is detected, agents monitoring a system can direct other agents to respond and apprehend the suspected undocumented aliens. As illegal traffic shifts within a station's area of operation—such shifts can occur daily—agents can move the mobile surveillance systems as needed.

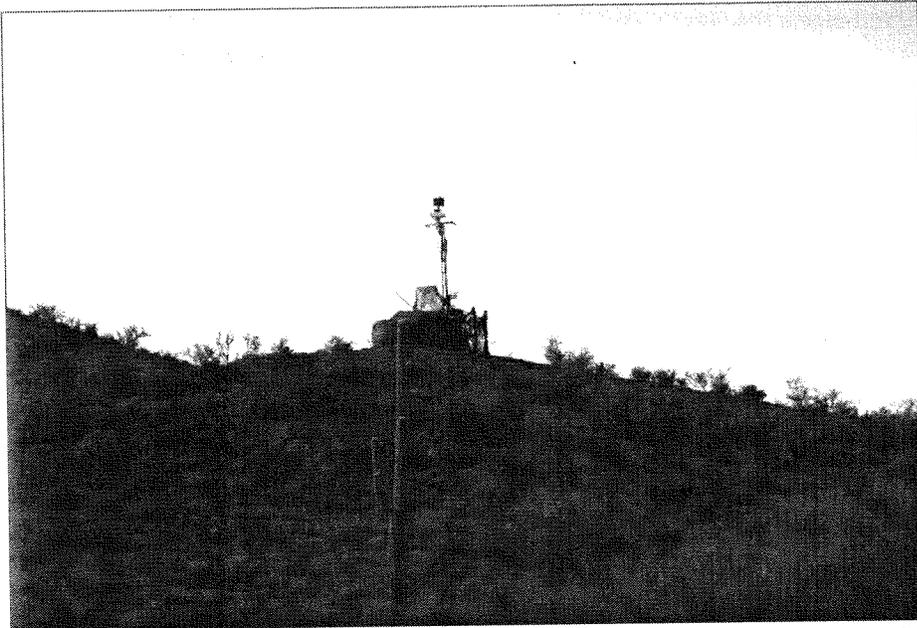
---

considered “monitored” when the probability of detection is high, but the ability to respond is limited because the terrain is remote and rugged, Border Patrol has limited resources, or both.

<sup>7</sup>Border Patrol supports the initiative by providing agents and officers to patrol the borders and enforce immigration laws.

<sup>8</sup>Also as part of this initiative, DHS began development of a comprehensive border protection system using motion-activated cameras, known as *SBInet*, and tactical infrastructure, which includes border fencing, roads, and lighting. According to the Executive Director of DHS's Secure Border Initiative, the continued and repeated delays in developing *SBInet* raised fundamental questions about its viability and availability to meet the need for technology along the southwestern border. Consequently, the Secretary of Homeland Security ordered a freeze on all *SBInet* funding until a department-wide reassessment is completed.

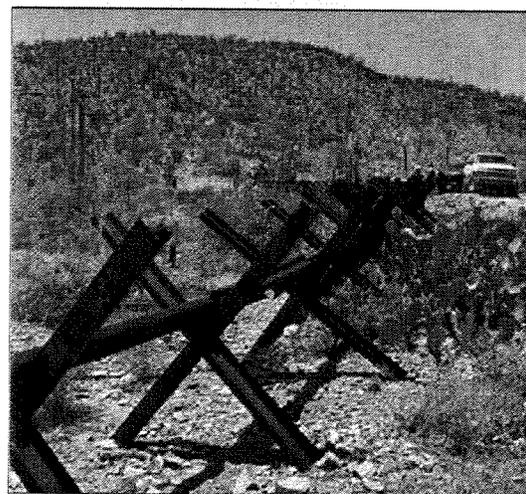
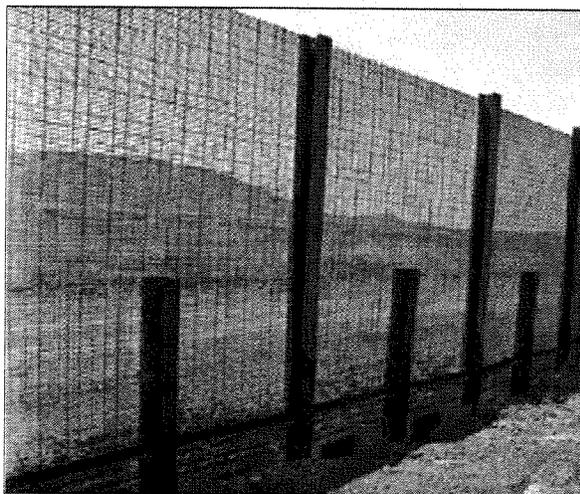
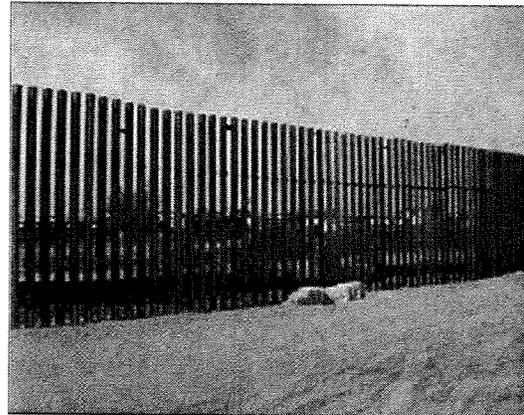
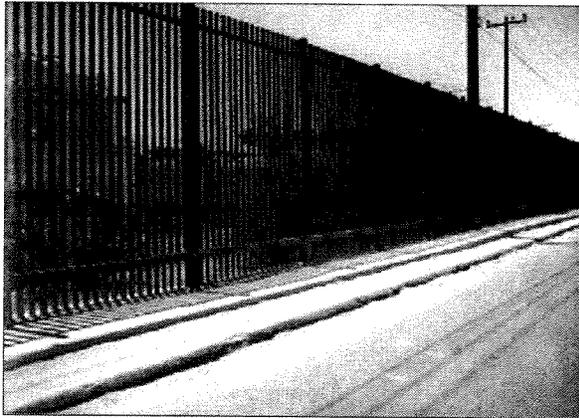
**Figure 3: A Border Patrol Mobile Surveillance System**



Source:

In addition to increasing the number of agents and technological resources along the border, DHS has installed hundreds of miles of tactical infrastructure as part of the Secure Border Initiative. Specifically, as of April 2010, the department had completed 646 of the 652 miles of border fencing it committed to deploy along the southwestern border, including pedestrian fencing and permanent vehicle barriers (see fig. 4). Pedestrian fencing is typically located near urban areas and is designed to prevent people on foot from crossing the border. Vehicle barriers consist of physical barriers meant to stop the entry of vehicles; almost all the fencing on federal lands along the southwestern border consists of vehicle barriers.

**Figure 4: Fencing Styles Used along the Southwestern Border**



Source: Border Patrol. The Picket Fence (upper left), Bollard Fence (upper right), and Post & Rail with wire mesh (lower left) are examples of pedestrian fencing; the Normandy Vehicle Fence (lower right) is an example of vehicle fencing.

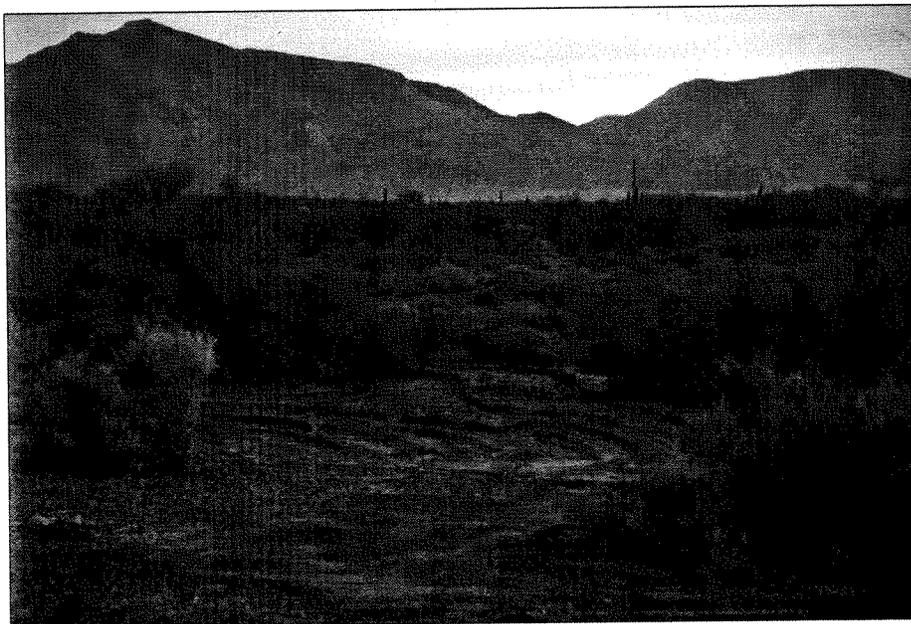
Note: The picket, Bollard, and post-and-rail fences are examples of pedestrian fencing. The Normandy-style fence is an example of a vehicle fence.

Border Patrol's strategy emphasizes border enforcement in urban and populated areas, which can divert large concentrations of illegal traffic to remote areas—including federal lands—where agents have more time to detect and apprehend undocumented aliens attempting to cross vast and remote landscapes. A consequence of this strategy, however, is an impact on natural, historic, and cultural resources on federal lands—resources that land management agencies are charged to

conserve, preserve, and protect. According to a 2003 Interior report, endangered species and their habitats are potentially being irreversibly damaged from this illegal activity.<sup>9</sup>

In addition to damage caused by undocumented aliens traversing environmentally sensitive lands, when Border Patrol deploys personnel, technology, and infrastructure resources on federal lands, it can also have negative impacts on certain plants and wildlife that are protected under federal law. For example, according to a Fish and Wildlife Service refuge manager in the borderlands region, when Border Patrol agents use vehicles off-road to patrol or pursue suspects on federal lands, the tire tracks left by their vehicles may remain for years (see fig. 5). The tracks from these off-road incursions can disrupt water flow from slopes and mountain ranges. This runoff normally pools and provides water for vegetation, which allows wildlife to survive through hot and barren summers. With tire tracks, the water collects in the tracks instead of natural pools. As a result, pools are smaller and evaporate more quickly, leading to less vegetation, less available food, and fewer animals able to survive the summer.

**Figure 5: Tracks Created by Border Patrol in Organ Pipe Cactus National Monument, Arizona**



Source: GAO.

<sup>9</sup>Department of the Interior, *International Border Security* (Washington, D.C., May 2003).

The volume of undocumented aliens crossing federal lands along the southwestern border can overwhelm the law enforcement and resource protection efforts of federal land managers, thus highlighting the need for Border Patrol's presence on and near these lands, according to DHS and land management agency officials. The need for the presence of both agencies on these borderlands has prompted consultation among DHS, Interior, and Agriculture to facilitate coordination between Border Patrol and the land management agencies. The departments have a stated commitment to foster better communication; increase interagency understanding of their respective missions, objectives, and priorities; and resolve issues and concerns linked to federal land use or resource management.

**Border Patrol Operates under Several Land Management Laws and Coordinates Its Responsibilities under These Laws with Land Management Agencies through National and Local Agreements**

Border Patrol has responsibilities under several federal land management laws when operating on federal lands, including the National Environmental Policy Act of 1969, Wilderness Act of 1964, and Endangered Species Act of 1973, and it generally coordinates its responsibilities under these laws with land management agencies through national and local interagency agreements. Border Patrol must obtain permission or a permit from federal land management agencies before its agents can undertake certain activities on federal lands, such as maintaining roads and installing surveillance equipment. Because the land management agencies are also responsible for ensuring compliance with land management laws, Border Patrol and the land management agencies have developed several mechanisms to coordinate their responsibilities. The most comprehensive of these is a national-level agreement—a memorandum of understanding signed in 2006 by the secretaries of Homeland Security, the Interior, and Agriculture—intended to provide consistent principles to guide their agencies' activities on federal lands. At the local level, Border Patrol and land management agencies have also coordinated their responsibilities through various local agreements.

## Several Land Management Laws Govern Border Patrol Operations on Federal Lands

Border Patrol, like all federal agencies, must obtain permission or a permit from the appropriate federal land management agency to conduct certain activities—such as road maintenance—on federal lands.<sup>10</sup> To obtain permission or a permit, Border Patrol and land management agencies must fulfill the requirements of various land management laws, including, but not limited to, the following:

- *National Environmental Policy Act of 1969.*<sup>11</sup> Enacted in 1970, the National Environmental Policy Act's purpose is to promote efforts that will prevent or eliminate damage to the environment, among other things. Section 102 requires federal agencies to evaluate the likely environmental effects of proposed projects using an environmental assessment or, if the projects would likely significantly affect the environment, a more detailed environmental impact statement evaluating the proposed project and alternatives. Environmental impact statements can be developed at both a programmatic level—where larger-scale, combined effects, and cumulative effects can be evaluated and where overall management objectives, such as road access and use, are defined—or a project level, where the effects of a particular project in a specific place at a particular time are evaluated. If, however, the federal agency determines that activities of a proposed project fall within a category of activities the agency has already determined has no significant environmental effect—called a categorical exclusion—then the agency generally does not need to prepare an environmental assessment or an environmental impact statement. The agency may instead approve projects that fit within the relevant category by using one of the predetermined categorical exclusions, rather than preparing a project-specific environmental assessment or environmental impact statement.<sup>12</sup>

---

<sup>10</sup>Third parties, including Border Patrol, generally cannot undertake any road activities, except for public access, without a permit from a land management agency, and that permit would need to be consistent with the applicable land and resource management plan, which govern road construction, access, maintenance, and decommissioning.

<sup>11</sup>Pub. L. No. 91-190, § 102 (1970), *codified at* 42 U.S.C. § 4322.

<sup>12</sup>For a project to be approved using a categorical exclusion, the agency must determine whether any extraordinary circumstances exist in which a normally excluded action or project may have a significant effect. Border Patrol has

When more than two federal agencies are involved in an activity—as is the case with Border Patrol operations on federal lands—National Environmental Policy Act regulations require that a lead agency supervise the preparation of the environmental impact statement. Under a 2008 memorandum of agreement between Border Patrol and Interior land management agencies, Border Patrol is to be the lead agency for all Border Patrol tactical infrastructure projects. For all other projects, such as road maintenance, Border Patrol or the land management agencies may be the lead, joint lead, or a cooperating agency. When Border Patrol and the land management agencies are joint lead agencies, they share responsibility for developing the scope and content of the environmental assessments and environmental impact statements. When either agency is a cooperating agency, it can develop its own environmental assessment or environmental impact statement or adopt the one developed by the lead agency if the cooperating agency reviews it and finds that its comments and suggestions have been satisfied.<sup>13</sup>

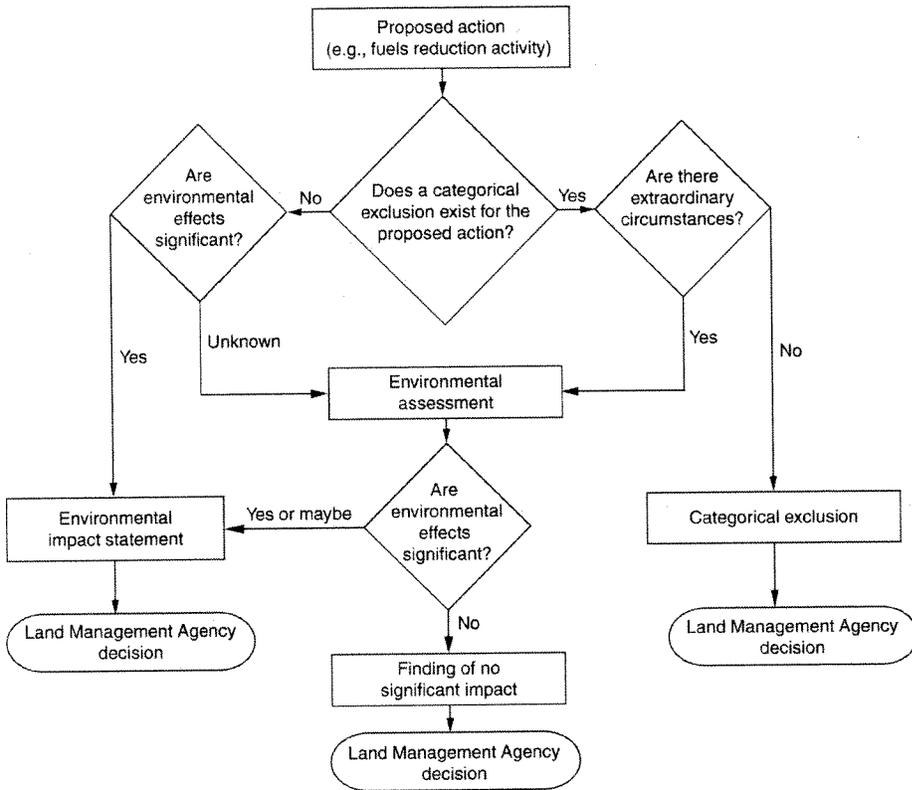
Once the lead and cooperating agencies agree on a draft environmental impact statement, a notice of its availability is published in the *Federal Register* and it is made available for public notice and comment for at least 45 days. The agencies are to then prepare a final environmental impact statement that is responsive to public comments, issue the final environmental assessment or environmental impact statement, and publish a notice of its availability in the *Federal Register*. At least 30 days after the notice of availability for the final environmental impact statement is published, the lead agency must publish a record of its decision, describing how the findings of the environmental impact statement were incorporated into the agency's decision-making process. Figure 6 illustrates the process for implementing National Environmental Policy Act requirements.

---

numerous categorical exclusions in place, including, for example, installation and operation of security equipment at existing facilities to screen for or detect dangerous or illegal individuals and routine monitoring and surveillance activities, such as patrols, investigations, and intelligence gathering.

<sup>13</sup>The lead and cooperating agencies may choose to meet with the public in the course of developing an environmental assessment or environmental impact statement.

**Figure 6: Process for Implementing National Environmental Policy Act Requirements**



Source: GAO.

- National Historic Preservation Act of 1966.*<sup>14</sup> The National Historic Preservation Act provides for the protection of historic properties—any prehistoric or historic district, site, building, structure, object, or properties of traditional religious and cultural importance to an Indian tribe, included, or eligible for inclusion in, the National Register of Historic Places. For all projects receiving federal funds or a federal permit, section 106 of the act requires federal agencies to take into account a project’s effect on any historic property. In accordance with regulations implementing the act, Border Patrol and land management agencies often incorporate compliance with the National Historic Preservation Act into their required evaluations of a project’s likely environmental effects under the National Environmental Policy Act. Thus, the lead agency or agencies on Border Patrol’s proposed projects or activities on federal lands must determine, by consulting with relevant federal, state, and

<sup>14</sup>Pub. L. No. 89-665 (1966); codified as amended at 16 U.S.C. §§ 470 to 470x-6.

tribal officials, whether the project or activity has the potential to affect historic properties. The purpose of the consultation is to identify historic properties affected by the project; assess the activity's adverse effects on the historic properties; and seek ways to avoid, minimize, or mitigate any of those effects. Specifically, the consultation is to determine and document a proposed action's area of potential effects; assess whether the proposed project would alter, directly or indirectly, certain characteristics of the historic property; and develop and evaluate alternatives or modifications to the proposed project or activity that could avoid, minimize, or mitigate adverse effects. The entire process, including resolution of any adverse effects, must be completed before the relevant land management agency can issue a permit or grant permission to proceed with the proposed activity.

- *Wilderness Act of 1964.*<sup>15</sup> The Wilderness Act of 1964 provides for federal lands to be designated as “wilderness areas,” which means that such lands are to be administered in such a manner that will leave them unimpaired for future use and enjoyment and to provide for their protection and the preservation of their wilderness character, among other goals. If Border Patrol proposes to patrol or install surveillance equipment on federal land that has been designated as wilderness, the agency must comply with the requirements and restrictions of the Wilderness Act of 1964, other laws establishing a particular wilderness area, and the relevant federal land management agency's regulations governing wilderness areas.<sup>16</sup> Section 4 of the act prohibits the construction of temporary roads or structures, as well as the use of motor vehicles, motorized equipment, and other forms of mechanical transport in wilderness areas, unless such construction or use is necessary to meet the minimum requirements for administration of the area, including for emergencies involving health and safety.

---

<sup>15</sup>Pub. L. No. 88-577, *codified at* 16 U.S.C. §§ 1133-1136.

<sup>16</sup>While a few of the wilderness areas along the United States-Mexico border were designated in the 1964 act, most were established later. In one case, the law establishing the area specifically addressed border security: the Arizona Desert Wilderness Act of 1990 established the Cabeza Prieta Wilderness Area in the Cabeza Prieta National Wildlife Refuge and stated that the land's designation as wilderness must not preclude or otherwise affect border operations in accordance with any existing interagency agreement.

Generally, the land management agencies have regulations that address the emergency and administrative use of motorized equipment and installations in the wilderness areas they manage.<sup>17</sup> For example, under Fish and Wildlife Service regulations, the agency may authorize Border Patrol to use a wilderness area and prescribe conditions under which motorized equipment, structures, and installations may be used to protect the wilderness, including emergencies involving damage to property and violations of laws. Forest Service regulations are similar to Fish and Wildlife Service regulations but allow the agency to prescribe conditions to protect the wilderness and its resources and emergencies involving damage to property. Under Bureau of Land Management regulations, the agency may authorize Border Patrol to occupy and use wilderness areas to carry out the purposes of federal laws as well as prescribe conditions for Border Patrol's use to protect the wilderness area, its resources, and users.

- *Endangered Species Act of 1973.*<sup>18</sup> The purpose of the Endangered Species Act is to conserve threatened and endangered species and the ecosystems upon which they depend. Under section 7 of the act, if Border Patrol or the land management agencies determine that an activity Border Patrol intends to authorize, fund, or carry out may affect an animal or plant species listed as threatened or endangered, the agency may initiate either an informal or a formal consultation with the Fish and Wildlife Service—which we refer to as a section 7 consultation—to ensure that its actions do not jeopardize the continued existence of such species or result in the destruction or adverse modification of its critical habitat. The agencies are to initiate informal consultation if they determine that an activity may affect—but is not

---

<sup>17</sup>The National Park Service does not have regulations governing administration of wilderness areas in national parks. Instead, each Park Service unit administers its wilderness areas in accordance with a wilderness management plan that it develops and the National Park Service's Wilderness Management Policy. Under the policy, administrative use of motorized equipment or mechanical transport is authorized only (1) in emergency situations—for example, homeland security and law enforcement—involving the health or safety of persons actually within the area or (2) if the unit's superintendent determines it to be the minimum requirement needed by management to achieve the purposes of the wilderness area. Determining the minimum requirement is a two-step process that first determines whether the proposed management action is appropriate or necessary for administration of the area as wilderness and does not cause a significant impact to wilderness resources and character and then determines the techniques and types of equipment needed to ensure that impacts on wilderness resources and character are minimized.

<sup>18</sup>Pub. L. No. 93-205 (1973), *codified as amended* at 16 U.S.C. §§ 1531-1544.

likely to adversely affect—a listed species or critical habitat. If the Fish and Wildlife Service agrees, typically by issuing a letter of concurrence with Border Patrol or the land management agency’s determination, then Border Patrol may proceed with the activity without further consultation. If Border Patrol or the land management agency determines that an activity is likely to adversely affect a species, formal consultation must be initiated, which involves submitting to the Fish and Wildlife Service a written request that includes a description of the proposed action and how it may effect threatened or endangered species and their critical habitat. The consultation usually ends with the issuance of a biological opinion by the Fish and Wildlife Service, which can contain provisions affecting Border patrol activities.<sup>19</sup>

#### National and Local Agreements Facilitate Coordination of Responsibilities among the Agencies

To help implement these key federal land management laws, Border Patrol and the land management agencies have developed several mechanisms to coordinate their responsibilities, including a national-level memorandum of understanding and local agreements. The national-level memorandum of understanding was signed in 2006 by the secretaries of Homeland Security, the Interior, and Agriculture and is intended to provide consistent principles to guide the agencies’ activities on federal lands along the U.S. borders.<sup>20</sup> Such activities may include placing and installing surveillance equipment, such as towers and underground sensors; using roads; providing Border Patrol with natural and cultural resource training; mitigating environmental impacts; and pursuing suspected undocumented aliens off road in wilderness areas. The memorandum also contains several provisions for resolving conflicts between Border Patrol and land managers, such as directing the agencies to resolve conflicts at and delegate

---

<sup>19</sup>The action agency, in this case the Border Patrol, determines whether and how to proceed with its proposed action in light of the biological opinion. Nevertheless, reviewing courts traditionally afford the biological opinion substantial deference, and action agencies must give great weight to the biological opinion before deciding on a proposed action.

<sup>20</sup>Department of Homeland Security, Department of the Interior, and U.S. Department of Agriculture, *Memorandum of Understanding on Regarding Cooperative National Security and Counterterrorism Efforts on Federal Lands along the United States’ Border* (Washington, D.C.: March 2006).

resolution authority to the lowest field operations level possible and to cooperate with each other to complete—in an expedited manner—all compliance that is required by applicable federal laws.

Some Border Patrol stations and land management agencies have coordinated their responsibilities through use of the national-level memorandum of understanding. For example, Border Patrol and land managers in Arizona used the 2006 memorandum of understanding to set the terms for reporting Border Patrol off road vehicle incursions in Organ Pipe Cactus National Monument, as well as for developing strategies for interdicting undocumented aliens closer to the border in the Cabeza Prieta National Wildlife Refuge and facilitating Border Patrol access in the San Bernardino National Wildlife Refuge. Border Patrol and land management agencies have also coordinated their responsibilities through local agreements that were facilitated by the 2006 memorandum of understanding, which provides guidance on the development of individual local agreements. For example, on the Coronado National Forest in Arizona, Border Patrol and the Forest Service developed a coordinated strategic plan that sets forth conditions for improving and maintaining roads and locating helicopter landing zones in wilderness areas, among other issues. Regarding road maintenance, the plan states that sufficient funding has not been available for the Forest Service to perform road maintenance on many of the roads needed by Border Patrol for patrol and surveillance operations. It therefore sets forth the conditions for Border Patrol to use its funding to pay for or perform road maintenance on the forest.<sup>21</sup> Another example of a local agreement that came forth as a result of the national-level 2006 memorandum of understanding is one between the Bureau of Land Management Las Cruces office and Border Patrol in New Mexico concerning the maintenance of unpaved Bureau of Land Management roads. Specifically, in 2007, the agencies agreed in writing that the Bureau of Land Management will promptly review Border Patrol road maintenance requests and expeditiously conduct necessary analysis of proposed requests, such as environmental and historic property assessments

---

<sup>21</sup> In addition, in developing the plan, officials from both agencies acknowledged that technological resources are needed in rough terrain where it is impractical to create roads, such as in the Pajarita wilderness area. Moreover, technological resources help give agents more time to respond by helicopter, horseback, or all-terrain vehicle to apprehend suspected undocumented aliens. The plan therefore allows for the placement of 14 remote video surveillance systems throughout the forest, numerous underground sensors, and unmanned aerial vehicles, among other tools.

under the National Environmental Policy and National Historic Preservation acts. In addition, Border Patrol agreed to limit road maintenance so that it does not change the existing road profile or include new construction of drainage structures.

Border Patrol and land managers have also used other mechanisms to coordinate their responsibilities, such as local agreements that predate the 2006 memorandum of understanding, as well as a 2000 legal settlement requiring a section 7 consultation and environmental impact statement that resulted in measures that now govern Border Patrol's activities in a certain area. For example, in California, officials in the Bureau of Land Management's El Centro office sought input from officials in Border Patrol's El Centro Sector in deciding which Bureau of Land Management roads to close as part of a comprehensive road designation and mapping project. By obtaining Border Patrol's input, the Bureau of Land Management decided to keep open numerous roads that it had otherwise been planning to close. Border Patrol El Centro Sector officials told us they were appreciative of this local coordination, which allowed them the access they needed while helping the Bureau of Land Management balance its requirements for resource protection and facilitating vehicle access by Border Patrol and the public. In addition, in 2000, Border Patrol settled a lawsuit alleging that its Operation Rio Grande in south Texas violated the National Environmental Policy Act and the Endangered Species Act. The settlement prohibited Border Patrol, on an interim basis, from mowing brush in the floodplain of the Rio Grande and clearing, burning, or driving through any brush or other vegetation in the floodplain, with some exceptions, and using lights at night to illuminate portions of the Lower Rio Grande National Wildlife Refuge property, among other terms. The legal settlement also required Border Patrol to conduct section 7 consultations and prepare an environmental impact statement, which resulted in measures that now govern Border Patrol's activities in and around the Fish and Wildlife Service's South Texas Refuge Complex.

## **Land Management Laws Have Limited Border Patrol's Access to Federal Lands in Some Areas, but Most Agents-in-Charge Reported No Effect on Their Stations' Border Security Status**

Border Patrol stations' access has been limited on some federal lands along the southwestern border because of certain land management laws, according to some patrol agents-in-charge in the borderlands region. Specifically, 17 of the 26 stations that have primary responsibility for patrolling federal lands along the southwestern border reported that when they attempt to gain a permit or obtain permission to access portions of federal lands, delays and restrictions have occurred as a result of complying with land management laws. Despite these access delays and restrictions at these stations, 22 of the 26 Border Patrol stations reported that the border security status of their area of operation has not been affected by land management laws.

### More Than Half of Border Patrol Stations Reported That Land Management Laws Have Affected Their Access for Patrolling and Monitoring Parts of Federal Lands

Patrol agents-in-charge for 17 of 26 stations along the southwestern border reported that they have experienced delays and restrictions in patrolling and monitoring portions of federal lands because of various land management laws. Specifically, patrol agents-in-charge for 14 of the 17 stations reported that they have been unable to obtain a permit or permission to access certain areas in a timely manner because of how long it takes for land managers to comply with the National Environmental Policy Act and the National Historic Preservation Act. In addition, 3 of the 17 stations reported that their agents' ability to access portions of federal lands has been affected by Wilderness Act restrictions on the creation of additional roads and installation of structures, such as SBI<sup>net</sup> towers. Furthermore, 5 of the 17 stations reported that as a result of consultations under section 7 of the Endangered Species Act, their agents had to change the timing or specific location of ground and air patrols because endangered species were present in these areas.

## Land Management Agencies' Implementation of the National Environmental Policy Act and National Historic Preservation Act Has Caused Delays for 14 Stations

Fourteen of the 26 Border Patrol stations along the southwestern border have reported experiencing delays in getting a permit or permission from land managers to gain access to portions of federal land because of the time it took land managers to complete the requirements of the National Environmental Policy Act and the National Historic Preservation Act. These delays in gaining access have generally lessened agents' ability to detect undocumented aliens in some areas, according to the patrol agents-in-charge. The 2006 memorandum of understanding directs the agencies to cooperate with each other to complete, in an expedited manner, all compliance required by applicable federal laws, but such cooperation has not always occurred, as shown in the following examples:

- *Organ Pipe Cactus National Monument, Arizona.* For the Border Patrol station responsible for patrolling the Park Service's Organ Pipe Cactus National Monument, the patrol agent-in-charge reported that it has routinely taken several months to obtain permission from land managers to move mobile surveillance systems. The agent-in-charge said that before permission can be granted, land managers generally must complete environmental and historic property assessments—as required by the National Environmental Policy and National Historic Preservation acts—on roads and sites needed for moving and locating such systems. For example, Border Patrol requested to move a mobile surveillance system to an area known as “66 Hill,” but by the time permission was granted—more than 4 months after the initial request—illegal traffic had shifted to other areas. As a result, Border Patrol was unable to move the surveillance system to the area as desired, and during the 4-month delay, agents were limited in their ability to detect undocumented aliens in a 7-mile range that could have been covered by the system.<sup>22</sup> The superintendent of Organ Pipe Cactus National Monument said that most of the monument and its routes have not had an historic property assessment, so when Border Patrol asks for approval to move equipment, such assessments must often be performed. Moreover, the monument has limited staff with numerous other

---

<sup>22</sup>Mobile surveillance systems perform a 180-degree sweep every 10 seconds.

duties. For example, the monument has two survey specialists who are qualified to perform environmental and historic property assessments. Thus, he explained, resources cannot always be allocated to meet Border Patrol requests in an expedited manner.

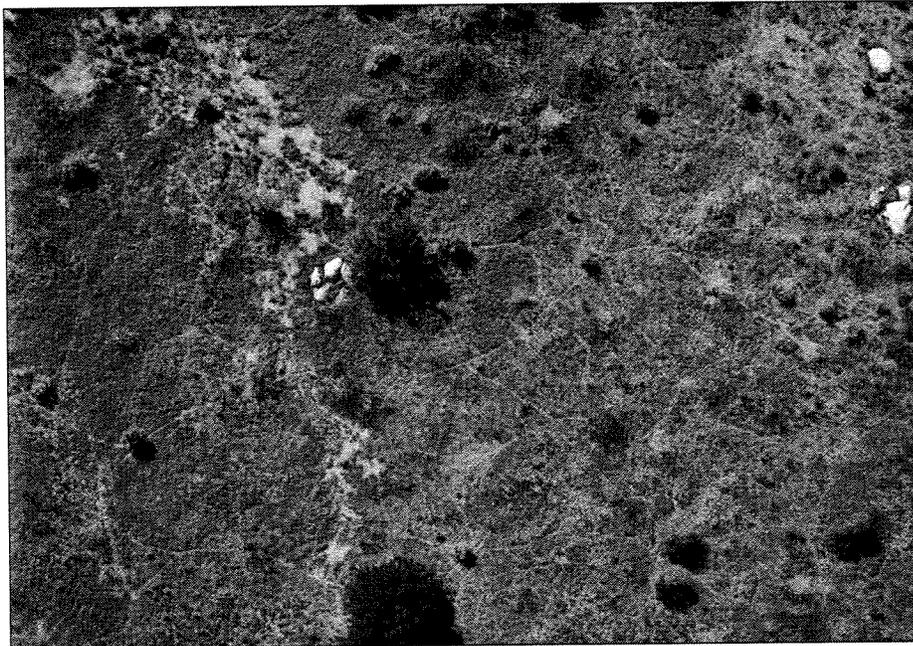
- *Bureau of Land Management land, New Mexico.* On Bureau of Land Management land in southwestern New Mexico, the patrol agents-in-charge of four Border Patrol stations reported that it may take 6 months or more to obtain permission from land managers to maintain and improve roads that Border Patrol needs on Bureau of Land Management land to conduct patrols and move surveillance equipment. According to one of these agents-in-charge, for Border Patrol to obtain such permission from land managers, the land managers must ensure that environmental and historic property assessments are completed, which typically entails coordinating with three different land management specialists—a realty specialist to locate the site, a biologist to determine if there are any species concerns, and an archeologist to determine if there are any historic sites. Coordinating schedules among these experts often takes a long time, according to a Border Patrol public lands liaison. For example, one patrol agent-in-charge told us that a road in his jurisdiction needed to be improved to allow a truck to move an underground sensor, but the process for the Bureau of Land Management to perform a historic property assessment and issue a permit for the road improvements took nearly 8 months. During this period, agents could not patrol in vehicles or use surveillance equipment to monitor an area that illegal aliens were known to use. The patrol agent-in-charge told us that performing such assessments on every road that might be used by Border Patrol would take substantial time and require assessing hundreds of miles of roads.<sup>23</sup> According to officials in the Bureau of Land Management’s Las Cruces district office, environmental and historic property specialists try to expedite support for Border Patrol as much as possible, but these specialists have other work that they are committed to as well. Moreover, the office has not been provided any additional funding to increase personnel to be able to dedicate anyone in support of the Border Patrol to expedite such requests.
- *Bureau of Land Management land, California.* For two Border Patrol stations responsible for patrolling Bureau of Land Management land in Southern California, including the Otay

---

<sup>23</sup>Bureau of Land Management does not always approve access for the entire road needed to access requested areas; for example, the agency may only perform environmental and historic property assessments on the location where Border Patrol wants to put the surveillance equipment in some cases.

Mountain Wilderness area and the Yuha Desert, the patrol agents-in-charge reported that when they request permission for road maintenance activities, it can take 6 to 9 months for permission to be granted; occasionally, Border Patrol may not receive permission at all. In one case, for example, a patrol agent-in-charge told us that better maintenance was needed for five roads and two surveillance system sites within her station's area of operation; but they did not receive permission at all, and so without these maintained roads her agents could not conduct routine patrols or reach the sites for mobile surveillance systems, even in areas of high illegal traffic (see fig. 7). The patrol agent-in-charge said that without the permission to maintain the poor roads, her agents had to find alternative routes to patrol and attempt to apprehend suspected undocumented aliens farther north. In addition, because the proposed surveillance sites could not be used, agents had to place the mobile surveillance systems in areas less prone to illegal traffic. The Bureau of Land Management state program manager for this area told us that one bureau employee had, at times, told Border Patrol agents that they could not use or have permission to maintain a road, whereas the employee should have instructed Border Patrol to seek permission from a bureau specialist, who could have begun the required environmental and historic property assessments. In addition, he told us that the required assessments for road maintenance activities have not been completed on many routes. He acknowledged that one of the Bureau of Land Management's biggest challenges is being responsive to Border Patrol timelines. A Bureau of Land Management field manager for this area also told us that the process to approve many Border Patrol projects often takes considerable time because the bureau lacks sufficient staff resources to expedite Border Patrol requests.

**Figure 7: Area of High Illegal Traffic Where Border Patrol Proposed Placing a Mobile Surveillance System**



Source: GAO.

For some of the stations, the delays patrol agents-in-charge reported could have been shortened if Border Patrol could have used its own resources to pay for, or perform, environmental and historic property assessments required by the National Environmental Policy Act and National Historic Preservation Act, according to patrol agents-in-charge and land managers with whom we spoke. On one land unit, Border Patrol and land managers have developed such a cooperative arrangement and resolved some of these access delays. Specifically, on the Coronado National Forest, agency officials told us that the Border Patrol and the Forest Service had entered into an agreement whereby Border Patrol pays for road maintenance and the necessary environmental and historic property assessments in some situations. While two patrol agents-in-charge reported that in the past, they experienced delays in gaining access resulting from poorly maintained roads, they stated that the development of the Coronado National Forest coordinated strategic plan has helped the agencies shorten the time it takes to begin road maintenance because it allows Border Patrol to use its resources and therefore begin environmental and historic property

assessments earlier.<sup>24</sup> One patrol agent-in-charge also told us that this plan provides a useful framework at the local level for Border Patrol to maintain and improve the forest roads that it needs for patrols. The plan recognizes that Forest Service funding has not been available to adequately maintain many of the forest roads that Border Patrol uses for patrols and for moving surveillance equipment. Officials from both agencies agreed that these roads must be in a drivable condition for Border Patrol agents. Agency officials stated that the agencies have also agreed to allow Border Patrol to fund additional Forest Service personnel to complete requirements for road maintenance and improvement under the National Environmental Policy Act and National Historic Preservation Act. The Coronado National Forest border liaison added that without this agreement, Forest Service would have been unable to meet Border Patrol's road maintenance needs in a timely fashion.

In other situations, using Border Patrol resources to pay for or perform road maintenance may not always expedite access; instead, land managers and Border Patrol officials told us that a programmatic environmental impact statement should be conducted under the National Environmental Policy Act to help expedite access. For example, some patrol agents-in-charge, such as those in southwestern New Mexico, told us that to conduct environmental and historic property assessments on every road that agents might use, on a case-by-case basis, would take substantial time and require assessing hundreds, if not thousands, of miles of roads. Moreover, when agents request to move mobile surveillance systems, the request is often for moving such systems to a specific location, such as a 60 foot-by-60 foot area on a hill. Some agents told us, however, that it takes a long time to obtain permission from land managers because environmental and historic property assessments must be performed on each specific site, as well as on the road leading to the site. As we stated earlier, the National Environmental Policy Act regulations recognize that programmatic environmental impact statements—broad evaluations of the environmental effects of multiple Border Patrol activities, such as road use and technology installation, in a geographic area—could facilitate compliance with the act. By completing a programmatic environmental impact statement, Border Patrol and land management agencies

---

<sup>24</sup>The one outstanding issue, one agent-in-charge explained, is for the agencies to more clearly define all roads that Border Patrol can maintain. According the Coronado National Forest road manager, special use permits will soon be issued for roads Border Patrol needs, and the roads will be mapped and identified for Border Patrol.

could then subsequently prepare narrower, site-specific statements or assessments of proposed Border Patrol activities on federal lands, such as on a mobile surveillance system site alone, thus potentially expediting access.<sup>25</sup>

### Wilderness Act Restrictions Have Affected Three Stations' Access to Federal Lands

Patrol agents-in-charge for three stations reported that agents' access to some federal lands was limited because of restrictions in the Wilderness Act on building roads and installing infrastructure, such as surveillance towers, in wilderness areas. For these stations, the access restrictions lessen the effectiveness of agents' patrol and monitoring operations. However, land managers may grant permission for such activities if they meet the regulatory requirements for emergency and administrative use of motorized equipment and installations in wilderness areas. As shown in the following examples, land managers responsible for two wilderness areas are working with Border Patrol agents to provide additional access as allowed by the emergency and administrative use regulations. On the other hand, a land manager responsible for a third wilderness area has denied some Border Patrol requests for additional access.

- *Cabeza Prieta National Wildlife Refuge, Arizona.* At the Cabeza Prieta National Wildlife Refuge, Wilderness Act restrictions have limited the extent to which Border Patrol agents can use vehicles for patrols and technology resources to detect undocumented aliens. The patrol agent-in-charge responsible for patrolling Cabeza Prieta told us that the refuge has few roads. She told us that her agents' patrol operations would be more effective with one additional east-west road close to the border. Nearly 8,000 miles of trails created by undocumented

---

<sup>25</sup>As part of the contract for tactical infrastructure maintenance and repair—a fiscal year 2011 contract for the maintenance and repair of vehicle and pedestrian fences, among other things, along the southwestern border—Border Patrol is developing a list of what roads it needs for access to such fencing. In developing this list, Border Patrol officials told us they will identify what roads have had environmental and historic property assessments. For those roads that have not been assessed, Border Patrol plans to prepare a programmatic environmental impact statement under the National Environmental Policy Act. Border Patrol headquarters officials told us this will include many—but not all—roads in the borderlands region. According to Border Patrol headquarters officials, they met with all land managers of land units along the border in July 2011 to discuss with them what roads will have environmental and historic property assessments.

aliens throughout the refuge have been identified by refuge staff; according to the patrol agent-in-charge, having an additional east-west road would give Border Patrol more options in using its mobile surveillance system to monitor significant portions of the refuge that are susceptible to undocumented alien traffic. Additionally, the patrol agent-in-charge told us that better access could benefit the natural resources on the refuge because it could lead to more arrests closer to the border—instead of throughout the refuge—and result in fewer Border Patrol off-road incursions. The refuge manager agreed that additional Border Patrol access may result in additional environmental protection. He told us that he is working with Border Patrol to develop a strategy at the refuge that would allow Border Patrol to detect and apprehend undocumented aliens closer to the border. Further, the refuge manager recently gave permission for Border Patrol to install an *SBI*net tower on the refuge that may also help protect the wilderness area.

- *Coronado National Forest, Arizona.* In parts of the Coronado National Forest, Wilderness Act restrictions also limit the extent to which Border Patrol agents at one station can use vehicles to patrol parts of the forest and detect undocumented aliens. Specifically, patrol agents-in-charge of the station responsible for patrolling the Millers Peak wilderness area told us that their agents' access to part of the wilderness area has been limited—in large part because of the rugged terrain, but also because of restrictions on creating new roads in wilderness areas. According to Tucson Sector Border Patrol officials, more undocumented aliens cross the Coronado National Forest than any other federal land unit along the southwestern border, and much of this illegal traffic has recently shifted to the Millers Peak wilderness area. Coronado National Forest officials told us they recognized the need for greater Border Patrol access and that such access could also help protect the forest's natural resources. As a result, according to Coronado National Forest officials, they approved the creation of four helicopter landing zones in the wilderness area because Forest Service wilderness regulations allow the agency to prescribe conditions for Border Patrol's use of motorized equipment and installations to protect the wilderness and its resources. Construction of these landing zones has been delayed until 2011, however, according to Coronado National Forest officials. In addition, Forest Service permitted Border Patrol to install technological resources—such as remote video surveillance systems and ground-based

radar—in the rough terrain where road creation is infeasible, such as in the wilderness area.<sup>26</sup> According to Border Patrol and Forest Service officials, installing this technology helps Border Patrol agents detect undocumented aliens and allows agents time to respond by helicopter, horseback, or all-terrain vehicle to apprehend undocumented aliens in these areas.

- *Organ Pipe Cactus National Monument, Arizona.* Contrasting with the previous 2 examples, when Border Patrol requested additional access in Organ Pipe’s wilderness area, the monument’s land manager determined that additional Border Patrol access would not necessarily improve protection of natural resources. For the Border Patrol station responsible for patrolling Organ Pipe, the patrol agent-in-charge told us that certain Border Patrol activities have been restricted because of the monument’s status as wilderness, and Border Patrol’s requests for additional access have been denied. Specifically, Border Patrol proposed placing an *SBI*net tower within the monument, and from the proposed site, the tower was expected to enable Border Patrol to detect undocumented aliens in a 30-square-mile range. But because the proposed site was in a designated wilderness area, the land manager denied Border Patrol’s request. Instead, Border Patrol installed the tower in an area within the monument that is owned by the state of Arizona. At this site, however, the tower has a smaller surveillance range and cannot cover about 3 miles where undocumented aliens are known to cross, according to the patrol agent-in-charge, thus lessening Border Patrol’s ability to detect entries compared with the originally proposed site. In addition, the patrol agent-in-charge explained that because of the tower’s placement, when undocumented aliens are detected, agents have less time to apprehend them before they get to mountain passes, where it is easier to avoid detection. According to the land manager, he requested that Border Patrol find a different location for the tower because the Wilderness Act restricts placement of such infrastructure in wilderness areas. Further, he explained that Border Patrol did not demonstrate to him that the proposed tower site was critical, as compared with the

---

<sup>26</sup>Remote video surveillance systems consist of integrated thermal imaging video surveillance provide long-range (12-mile) video surveillance day or night in all weather conditions. Ground-based radar is used to detect undocumented aliens over extended ranges and is linked with remote video surveillance systems for use in remote areas. Ground-based radar provides early warning and sends both visual and audible alarms to a command center. Additionally, it collects data on the number of undocumented aliens, direction of movement, and speed of movement, which aids apprehension efforts.

alternative, and that agents' ability to detect undocumented aliens would be negatively affected.

#### Endangered Species Act Requirements Have Affected Five Stations' Access to Federal Lands

Five Border Patrol stations reported that as a result of consultations required by section 7 of the Endangered Species Act, agents have had to adjust the timing or specific locales of their ground and air patrols to minimize the patrols' impact on endangered species and their critical habitats. As shown in the following examples, although some delays and restrictions have occurred, Border Patrol agents generally were able to adjust their patrols with little loss of effectiveness in their patrol operations.

- *Coronado National Forest, Arizona.* For a Border Patrol station responsible for patrolling an area within the Coronado National Forest, the patrol agent-in-charge reported that a section 7 consultation resulted in restrictions being placed on helicopter and vehicle access because of the presence of endangered species. First, during parts of the year when the endangered Mexican spotted owl resides in the Millers Peak area, helicopter flight paths have been restricted. Nevertheless, the agent-in-charge told us, the restrictions, which result in alternate flight paths, do not lessen the effectiveness of Border Patrol's air operations. Moreover, according to the Forest Service District Ranger, since the rugged terrain of Millers Peak presents a constant threat to agents' safety, Border Patrol agents have been allowed to use helicopters as needed, regardless of endangered species' presence.<sup>27</sup> Second, the agent-in-charge told us that Border Patrol wanted to improve a road through Sunnyside Canyon to provide better access to the Huachuca Mountains, but because of the proposed project's adverse effects on the Huachuca water umbel—an endangered plant—road improvement could not be completed near a point where water crosses the road. Border Patrol worked with Forest Service officials to improve 3 miles of a Forest Service road up to the low point, but

---

<sup>27</sup>Forest Service regulations authorize the Chief of the Forest Service to prescribe conditions under which motorized equipment, installations, and structures may be used in emergencies involving the health and safety of persons.

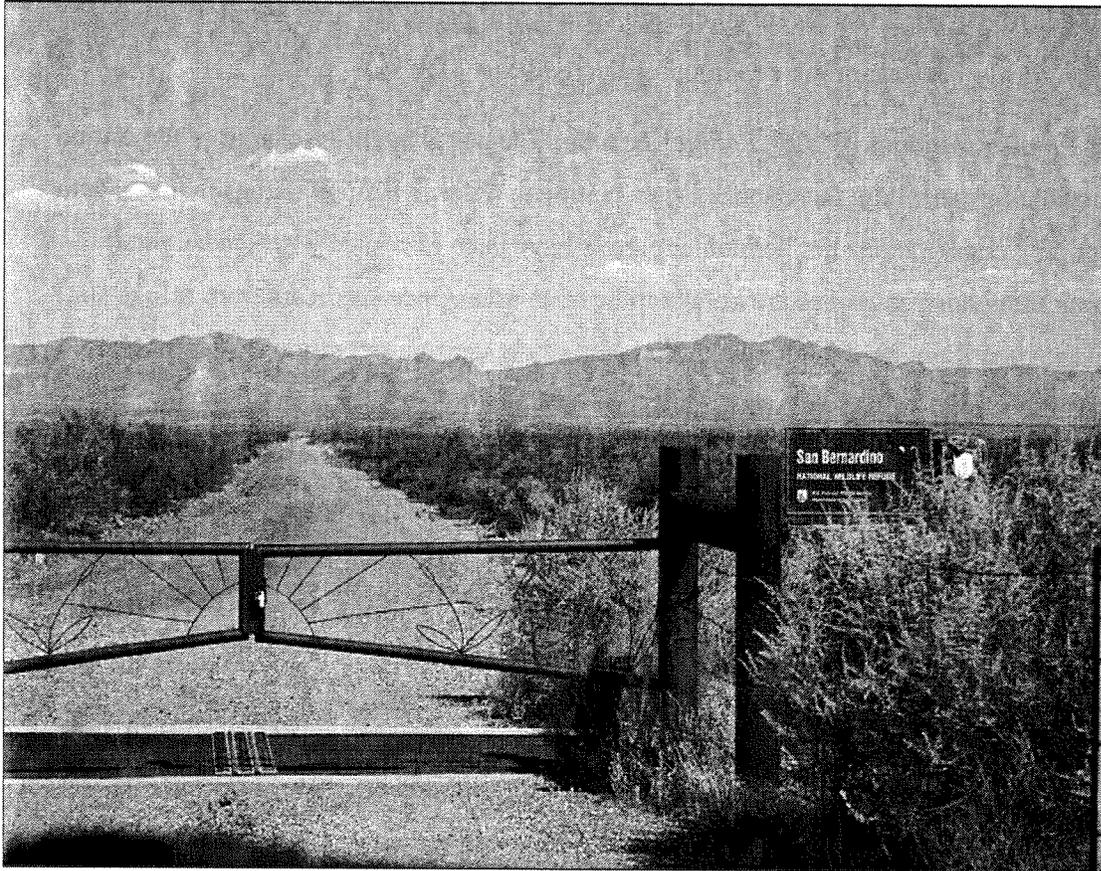
the crossing itself—about 8 feet wide—along with 1.2 miles of road east of it, was not improved. According to the agent-in-charge, agents still patrol the area but must drive vehicles slowly because of the condition of the road east of the low point.

- *Cabeza Prieta National Wildlife Refuge, Arizona.* The patrol agent-in-charge of the station responsible for patrolling the Cabeza Prieta National Wildlife Refuge told us that as a result of section 7 consultations her helicopter patrols have been restricted when endangered Sonoran pronghorn antelopes are known to be in an area. Once she hears from refuge staff about the pronghorn herds' location, her agents adjust their air operations to patrol and pursue undocumented aliens farther north in the refuge. She told us that her agents' ability to detect and apprehend suspected undocumented aliens has not been compromised by these adjustments. Instead, she explained that communication with the refuge manager about the location of the herd is all that has been needed. According to the refuge manager, refuge staff are currently developing a system that will provide Border Patrol with "real-time" information on the pronghorn herd's location, which they plan to complete before the end of the year.
- *San Bernardino National Wildlife Refuge, Arizona.* For the Border Patrol station responsible for patrolling the San Bernardino National Wildlife Refuge, the patrol agent-in-charge told us that vehicle access has been restricted in the refuge because vehicle use can threaten the habitat of the endangered Yaqui chub fish. Consequently, since the establishment of the refuge in 1982, locked gates have been in place on the refuge's administrative roads (see fig. 8).<sup>28</sup>

---

<sup>28</sup>The 2006 memorandum of understanding states that Border Patrol may operate motor vehicles at any time on existing public and administrative roads or trails and in areas previously designated by the land management agency for off-road vehicle use, *provided that such use is consistent with presently authorized public or administrative use* (emphasis added).

**Figure 8: Locked Gates on the San Bernardino National Wildlife Refuge**



Source:

In the last several years, however, with the increase in the number of agents assigned to the station, Border Patrol station officials told us they wanted to have vehicle access to the refuge. The terms for vehicle access, however, had to be negotiated with the refuge manager because of the restrictions on such access to protect the habitat of the endangered Yaqui chub fish. The patrol agent-in-charge told us that Border Patrol and the refuge manager agreed to place Border Patrol locks on refuge gates and to allow second-level Border Patrol supervisors, on a case-by-case basis, to determine whether vehicle access to the refuge is critical.<sup>29</sup> If such a determination is made, a Border Patrol supervisor unlocks the gate and contacts refuge staff to inform them that access was granted through a specific gate. The

<sup>29</sup>Second-level Border Patrol supervisors are field operations supervisors. At least one such supervisor is on duty during each shift.

patrol agent-in-charge told us that operational control has not been affected by these conditions for vehicle access. However, he told us that additional technology, such as mobile surveillance systems, would be helpful in detecting undocumented aliens in the remote areas in and around the refuge.

Most Agents Reported That Land Management Laws Have Had No Effect on Border Patrol's Overall Measure of Border Security

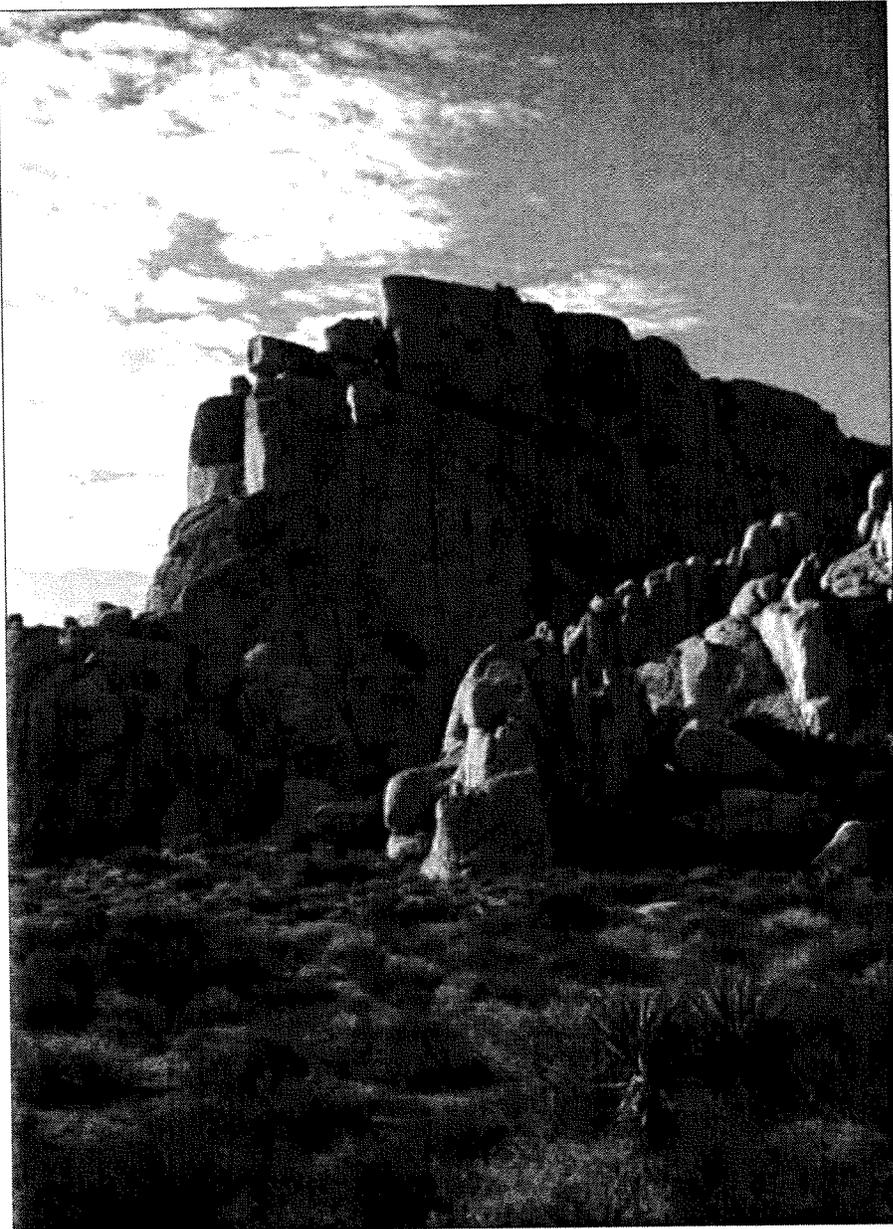
Despite the access delays and restrictions reported for 17 stations, most patrol agents-in-charge who we interviewed said that the border security status of their jurisdictions has been unaffected by land management laws. Instead, factors other than access delays or restrictions, such as the remoteness and ruggedness of the terrain or dense vegetation, have had the greatest effect on their abilities to achieve or maintain operational control. While four patrol agents-in-charge reported that delays and restrictions negatively affected their ability to achieve or maintain operational control, they have either not requested resources to facilitate increased or timelier access or have had their requests denied by senior Border Patrol officials, who said that other needs were greater priorities for the station or sector.

**Most Stations' Border Security Status Has Been Unaffected by Land Management Laws; Instead, Stark Terrain Features Have Had the Greatest Effect**

Patrol agents-in-charge at 22 of the 26 stations along the southwestern border told us that their ability to achieve or maintain operational control in their areas of responsibility has been unaffected by land management laws—in other words, no portions of these stations' jurisdictions have had their border security status, such as “controlled,” “managed,” or “monitored,” downgraded as a result of land management laws. Instead, for these stations, the primary factor affecting operational control has been the remoteness and ruggedness of the terrain or the dense vegetation their agents patrol and monitor. Specifically, patrol agents-in-charge at 18 stations told us that stark terrain features—such as rocky mountains, deep canyons, and dense brush—have negatively affected their agents' abilities to detect and apprehend undocumented aliens. A

patrol agent-in-charge whose station is responsible for patrolling Bureau of Land Management land in southern California told us that the terrain is so rugged that Border Patrol agents must patrol and pursue undocumented aliens on foot; even all-terrain vehicles specifically designed for off-road travel cannot traverse the rocky terrain. He added that because of significant variations in topography, such as deep canyons and rough mountain ridges, surveillance technology can also be ineffective in detecting undocumented aliens who hide there (see fig. 9).

**Figure 9: Bureau of Land Management's Rugged Jacumba Mountain Wilderness Area in California**



Source: Bureau of Land Management.

In addition, patrol agents-in-charge responsible for patrolling Fish and Wildlife Service land in southern Texas reported that dense vegetation limits agents' ability to patrol or monitor much of the land. One agent explained that Border Patrol's technology resources were developed for use in deserts where few terrain features obstruct surveillance, whereas the vegetation in southern Texas is dense and junglelike (see fig. 10).

**Figure 10: Dense, Semitropical Forest of the Santa Ana National Wildlife Refuge in Southern Texas**



Source: GAO.

Most patrol agents-in-charge also told us that the most important resources for achieving and maintaining operational control are (1) a sufficient number of agents; (2) additional technology resources, such as mobile surveillance systems; and (3) tactical infrastructure, such as vehicle and pedestrian fencing. For example, in the remote areas of the San Bernardino National Wildlife Refuge, an assistant patrol agent-in-charge told us that even with greater access in the refuge, he would not increase the number of agents patrolling it to gain improvements in operational control. Instead, he said additional technology resources, such as a mobile surveillance system, would be more effective in achieving operational control of the area because such systems would assist in remotely detecting undocumented aliens while allowing agents to maintain their

presence in and near the city of Douglas, Arizona, where the vast majority of illegal entries occur. His view, and those of other patrol agents-in-charge who we interviewed, is underscored by Border Patrol's operational assessments—twice yearly planning documents that stations and sectors use to identify impediments to achieving or maintaining operational control and to request resources needed to achieve or maintain operational control.<sup>30</sup> In these assessments, stations have generally requested additional personnel or technology resources for their operations on federal lands. Delays or restrictions in gaining access have not been identified as an impediment to achieving or maintaining operational control in operational assessments for any of the 26 stations along the southwestern border.

**For Four Stations Reporting Their Security Status Has Been Affected by Land Management Laws, Agents Have Either Not Requested Additional Access or Have Had Such Requests Denied by Senior Border Patrol Officials**

Of the 26 patrol agents-in-charge we interviewed, 4 reported that delays and restrictions in gaining access to federal lands have negatively affected their ability to achieve or maintain operational control: 2 of these 4 reported not having requested resources to facilitate increased or timelier access through Border Patrol's operational assessments, and the other 2 reported having had such requests denied by either Border Patrol sector or headquarters officials. For example, the patrol agent-in-charge responsible for Bureau of Land Management land in southwestern New Mexico told us that operational control in a remote area of his jurisdiction is partly affected by the scarcity of roads. Specifically, having an additional road in this area would allow his agents to move surveillance equipment to an area that, at present, is rarely monitored. Nevertheless, the patrol agent-in-charge neither requested additional access through Border Patrol's operational assessments nor used the process described in the 2006 memorandum of understanding—which directs Border Patrol to consult with land managers when developing operation assessments if Border Patrol needs additional access on federal lands—to ask land

---

<sup>30</sup>This national process, known as the operational requirements-based budgeting program and occurring twice each year, was developed to help Border Patrol determine how and where to allocate additional agents, technology, and infrastructure.

managers to construct an additional road.<sup>31</sup> Land managers in this area told us they would be willing to work with Border Patrol to facilitate such access, if requested.

Similarly, the patrol agent-in-charge at the Border Patrol station responsible for patrolling the Park Service's Organ Pipe Cactus National Monument also reported that his ability to achieve operational control is affected by a shortage of east-west roads in the monument. He told us that some of his area of operation could potentially reach operational control status if there was an additional east-west road for patrolling certain areas within the monument to detect and apprehend undocumented aliens. Border Patrol requested an additional east-west road, but the land manager denied the request because the area is designated wilderness, according to the agent-in-charge.<sup>32</sup> The agent explained that he did not request additional roads through the operational assessment because the land manager denied his initial request. The land manager told us that he would be willing to work with Border Patrol to facilitate additional access if it could be shown that such access would help increase deterrence and apprehensions closer to the border.

For the other two stations reporting that federal land management laws have negatively affected their ability to achieve or maintain operational control, Border Patrol sector or headquarters officials have denied the stations' requests for resources to facilitate increased or timelier access—typically for budgetary reasons. For example, at the Border Patrol station responsible for patrolling Bureau of Land Management land in southwestern California, including the Otay Mountain wilderness area, the patrol agent-in-charge reported that 1.3 miles of border in her area of responsibility are not at operational control because, unlike most other border areas, it has no access road directly on the border. Further, she explained, the rugged terrain has kept Border

---

<sup>31</sup>According to the Bureau of Land Management state program director for California, the bureau determined on a national level that changing a route or adding a route is allowed under land resource management plans; environmental and historic property assessments would still be needed, along with consultations required by the Endangered Species Act, but such access could be granted.

<sup>32</sup>The 2006 memorandum of understanding directs the parties to cooperate with each other to identify methods, routes, and locations for Border Patrol operations that will minimize impacts to natural, cultural, and wilderness resources resulting from Border Patrol operations while facilitating needed Border Patrol access.

Patrol from building a road on the border. Instead, a road would need to be created in an area designated as wilderness. According to the patrol agent-in-charge, her station requested an access road through Border Patrol's San Diego Sector office, and the request was submitted as part of the operational requirements-based budgeting program. As of August 2010, the request had not been approved because of budgetary constraints, according to the agent-in-charge. In addition, on Fish and Wildlife Service lands in southern Texas, the patrol agent-in-charge told us, few roads lie close to the Rio Grande River. As a result, his agents have to patrol and monitor nearly 1 mile north of the international border, much closer to urban areas. According to Border Patrol's Rio Grande Valley Sector officials, they have been using the operational assessments to request an all-weather road for several years, but approval and funding have not yet been granted by Border Patrol's headquarters.

#### **Some Federal Land Managers Have Collected and Used Selected Data on the Environmental Effects of Cross-Border Illegal Activity to Manage Federal Borderlands**

While federal land managers along the southwestern border receive data collected by Border Patrol on the extent of cross-border illegal activities on their lands, the extent of land managers' data collection efforts on the effects of these illegal activities has varied among land units, with some land managers regularly monitoring areas to determine resource impacts, others documenting environmental damage on an ad hoc basis, and still others collecting no such data. Where collected, land managers have used data on the environmental effects of cross-border illegal activity, as well as data provided by Border Patrol on the extent of cross-border illegal activity, for several land management and conservation purposes. These purposes include (1) restoring lands and mitigating environmental damage, (2) providing Border Patrol agents with environmental and cultural awareness training, (3) protecting staff and visitors, and (4) establishing conservation measures to reduce adverse effects of Border Patrol actions on endangered species and their habitats.

Land Managers Rely on Border Patrol for Data on Cross-Border Illegal Activity; the Extent of Their Data Collection Efforts on the Environmental Effects of Such Activity Has Varied

Land managers generally rely on Border Patrol for data on cross-border illegal activity, including data on undocumented alien apprehensions and drug seizures that occur on federal lands. In accordance with the 2006 memorandum of understanding, Border Patrol officials share data with land managers, and officials have done so in a variety of ways, including at regularly occurring meetings and in emailed reports. For example, Border Patrol provides apprehension and drug seizure statistics to land managers during the monthly meetings of Borderlands Management Task Forces. These task forces have been formed in each Border Patrol sector along the southwestern border and serve as a forum for Border Patrol and land managers, among others, to share information on and discuss border related issues occurring on public lands. During these meetings, Border Patrol has typically provided written statistics on the cross-border illegal activity occurring throughout a sector on relevant federal land units within the sector.

The extent of land managers efforts to collect data on the environmental effects of cross-border illegal activity along the southwestern border, however, has varied, with some land managers (5 of 18) regularly collecting and analyzing data on the environmental effects of cross-border illegal activity, including acres burned by wildland fires, miles of trampled vegetation from illegal trails, and amounts of trash collected. Other land managers (7 of 18) reported having collected data on a more ad hoc, irregular basis. Still other land managers (6 of 18) reported having collected no such data.

Examples of ongoing efforts by land managers to collect and analyze these kinds of data include the following:

- At Organ Pipe Cactus National Monument, land managers have conducted a semiannual inventory and monitoring program since 2002 to assess the extent of natural and cultural resource damage from cross-border illegal activity. The land managers delineate and walk

five east-west lines, or transects, that cross known illegal traffic routes, and along each transect, monument staff have recorded and mapped resource impacts, such as trails, trash, and fire scars.

- Land managers from the Cleveland National Forest in California have annually collected and reported a variety of data on environmental impacts, which show that since 2002, nearly 59,000 pounds of trash left by undocumented aliens have been collected and over 19,000 acres of forest have burned from fires started by undocumented aliens.
- The Bureau of Land Management, through its restoration work on federal lands throughout southern Arizona, has annually collected data since 2003 on the amount of trash, vehicles, and bicycles removed from public land and acres of land restored.
- Land managers from the Cabeza Prieta National Wildlife Refuge have annually collected data on illegal trails since 2005, damaged vegetation, and sites with large amounts of trash. They collect these data along 12 transects established by refuge staff, which are traveled on foot by volunteers and refuge staff who record information on environmental impacts. Cabeza Prieta has also inventoried the damage caused by foot and vehicle traffic, mapped smuggling routes through the refuge, and assessed priorities for restoration.

Other land managers' data collection efforts have been conducted with less regularity. For example, land managers from Fish and Wildlife Service's South Texas Refuge Complex—which includes the Laguna Atascosa, Santa Ana, and Lower Rio Grande Valley national wildlife refuges—told us that although they do not regularly collect data on the environmental impacts of cross-border illegal activity, their staff has estimated that thousands of illegal trails and tons of trash and human waste could be found on the three wildlife refuges within the complex. In addition, at the Coronado National Memorial in Arizona, land managers have at times mapped the major trails used by undocumented aliens through the monument, taken aerial and satellite photos to document damage, and documented disturbances to the foraging habitat of the endangered lesser long-nosed bat.

Three land managers we spoke with had not conducted any formal efforts to collect data on the environmental effects of cross-border illegal activity, although they believed that adverse environmental effects were occurring. A land manager with the Bureau of Land Management's Las Cruces office in New Mexico said that his office had requested funding to collect data on the environmental effects of increased human presence on bureau lands—including inventorying and documenting the extent of illegal trails, trash, and impacts to animal species—but had received no funding to carry out these data collection efforts.

In addition to collecting data on the environmental impacts of cross-border illegal activity, land managers in some areas have also collected data on the environmental effects of Border Patrol's response to cross-border illegal activities. For example, land managers for Organ Pipe Cactus National Monument and Cabeza Prieta National Wildlife Refuge have created maps showing the extent of off-road vehicle travel by Border Patrol agents. Such travel can be disruptive to endangered species and damaging to vegetation, soils, and water runoff patterns, according to these land managers.<sup>33</sup>

#### Land Managers Have Used Environmental and Other Data for Managing Federal Borderlands

Land managers use data they have collected on the environmental effects of cross-border illegal activity, as well as data provided by Border Patrol on the extent of cross-border illegal activity, for several purposes, including (1) restoring lands and mitigating environmental damage, (2) providing Border Patrol agents with environmental and cultural awareness training, (3) protecting staff and visitors, and (4) establishing conservation measures to reduce adverse effects of Border Patrol actions on endangered species and their habitats.

---

<sup>33</sup>Organ Pipe and Cabeza Prieta land managers told us they are hoping that mapping off-road vehicle incursions will help them work with Border Patrol to identify approaches for apprehending undocumented aliens as close to the border as possible—a strategy outlined in the 2006 memorandum of understanding—thus averting the need to travel as much off road.

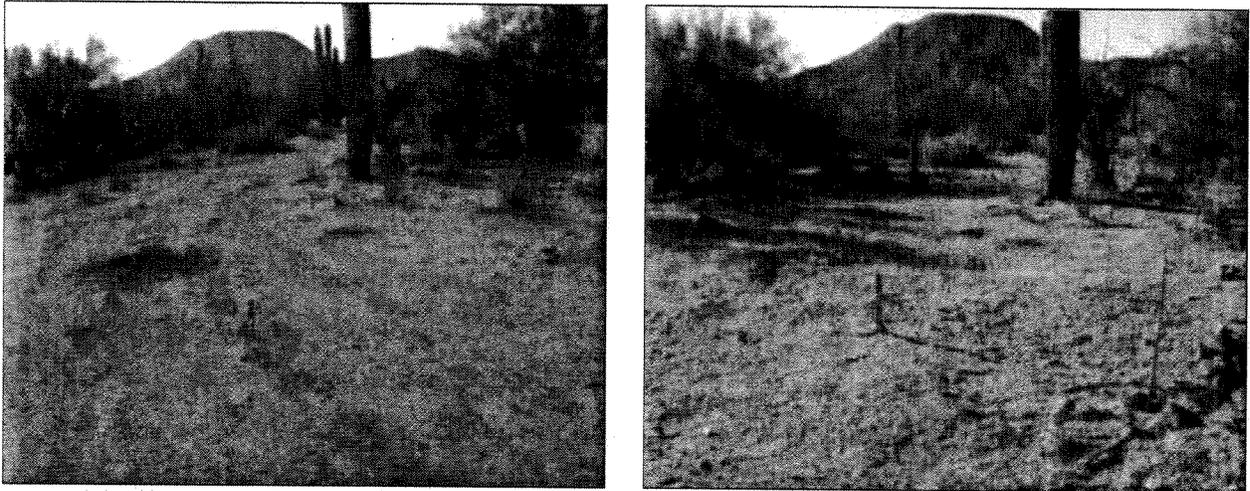
## Restoring Lands and Mitigating Environmental Damage

Some land managers have used environmental data and data on cross-border illegal activity to help restore lands damaged by undocumented aliens. For example, since 2003, the Bureau of Land Management has been working with federal, state, and tribal partners to administer the Southern Arizona Project.<sup>34</sup> Through this project, partners have coordinated and executed cleanup and restoration activities throughout southern Arizona. In fiscal year 2009, for example, participants in the Southern Arizona Project removed more than 468,000 pounds of trash, 62 abandoned vehicles, and 404 bicycles and restored 650 acres of land that were damaged by illegal traffic (see fig. 11). The Bureau of Land Management reported that the project focused much of its remediation efforts on restoring illegally created roads and trails, which included grading the disturbed sites, removing invasive brush, and reseeding areas with native plants.

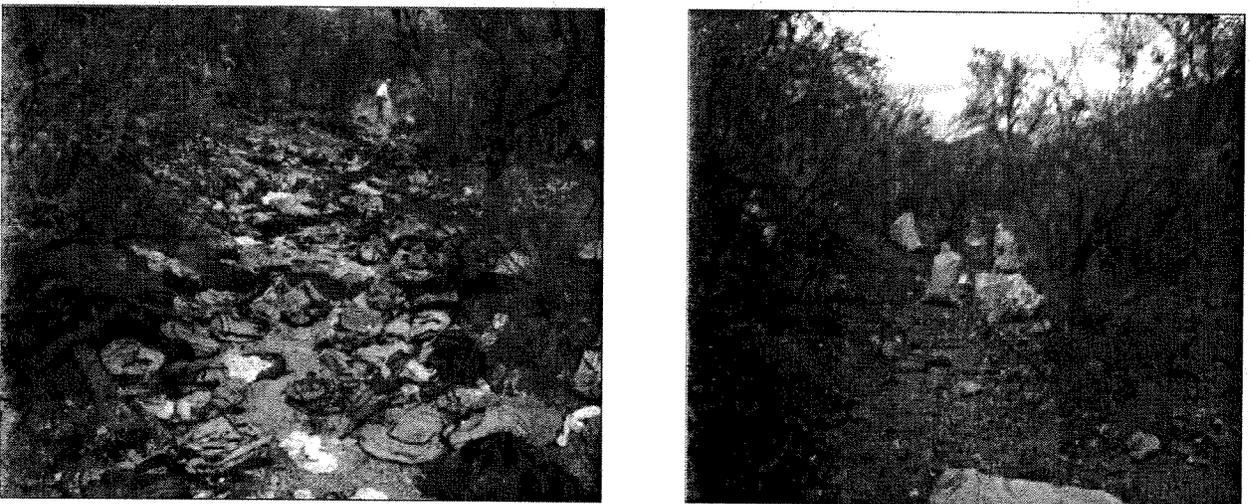
---

<sup>34</sup>Administered by the Arizona Bureau of Land Management to mitigate the effects of cross-border illegal activity on Arizona borderlands, the Southern Arizona Project began in 2003. In fiscal year 2009, Southern Arizona Project funding—which comes from the Bureau of Land Management’s annual base appropriations for resource protection—totaled approximately \$1.14 million.

**Figure 11: Before and After Cleanup and Restoration Activities in Southern Arizona**



Smuggling route on the Sonoran Desert National Monument—Table Top Wilderness Area before and after restoration.



A typical "lay up" site used by undocumented aliens before and after cleanup. Clothing, backpacks, food wrappers, and water bottles make up the bulk of the trash at this site.

Source: Bureau of Land Management.

Land managers with Interior have also used selected data to identify and select natural resource projects to offset the environmental impacts of constructing pedestrian and vehicle fences. The Illegal Immigration Reform and Immigrant Responsibility Act of 1996 mandated installation of additional physical barriers and roads near the border, including 14 miles of additional fencing near San Diego, California. The act waived the provisions of the Endangered Species Act and the National Environmental Policy Act to the extent that the U.S. Attorney General determined necessary to ensure expeditious construction of barriers and roads. The REAL ID Act of 2005

amended the 1996 act to authorize the Secretary of Homeland Security to waive all legal requirements that the Secretary, at his or her sole discretion, determines necessary to ensure expeditious construction.<sup>35</sup> In 2007, the act was amended again to require, among other things, that the Secretary (1) construct not less than 700 miles of fencing along the southwestern border where such fencing would be most practical and effective and (2) consult widely, including with the Secretaries of the Interior and Agriculture, to minimize the impact of the fencing on the environment, among other things.<sup>36</sup> In instances where the Secretary invoked this waiver authority, DHS voluntarily prepared plans—termed environmental stewardship plans—estimating the expected environmental impacts of particular fencing segments and worked with Interior to develop strategies to reduce or minimize adverse environmental impacts. Where adverse environmental impacts such as habitat loss, heavy sedimentation, or erosion could not be minimized or averted, DHS committed funding to allow Interior to carry out appropriate mitigation measures (see fig. 12). Using the environmental stewardship plans to identify appropriate mitigation measures, DHS committed up to \$50 million to Interior for implementing such measures.<sup>37</sup> Interior in turn directed its land managers along the southwestern border to identify \$50 million worth of projects to benefit threatened and endangered species and their habitats. Projects identified by Interior—and agreed to by DHS—include acquiring land to preserve habitat for the endangered Otoy Mountain arroyo toad in California and conducting jaguar monitoring and conservation projects across Arizona and New Mexico (see app. 2 for the complete list of mitigation projects). As of September 2010, DHS and Interior officials reported that no projects had started yet because the departments were still in the process of finalizing an interagency agreement.

---

<sup>35</sup>The Secretary has invoked this waiver authority five times since passage of the act.

<sup>36</sup>Notwithstanding the total mileage requirement of 700 miles, the Secretary is not required to install fencing, physical barriers, roads, lighting, cameras, and sensors in a particular location if the Secretary determines that the use or placement of such resources is not the most appropriate means to achieve and maintain operational control over the international border at a given location.

<sup>37</sup>DHS also used biological resource plans, which it completed in lieu of section 7 consultations, and monitoring reports on specific fence segments to identify mitigation measures.

**Figure 12: Fencing Project in Otay Mountain Wilderness Area, California, for Which DHS Is Providing Funding to Mitigate Erosion Damage**



Source: GAO.

### Providing Border Patrol Agents with Training

Some land managers have used information on the environmental effects of cross-border illegal activity to design and provide training to Border Patrol agents on ways to minimize the environmental damage their response to illegal activities may cause, as required by the 2006 memorandum of understanding.<sup>38</sup> Twenty-two of the 26 patrol agents-in-charge we interviewed told us that their agents received training from land managers in the form of either in-person training, training tools such as videos, or both.<sup>39</sup> Twenty patrol agents-in-charge reported that the training provided by land managers had increased their agents' awareness of the potential resource effects of their patrol operations and that this increased awareness has led agents to

---

<sup>38</sup>The 2006 memorandum of understanding states that Homeland Security, Interior, and the Forest Service will provide Border Patrol agents with environmental and cultural awareness training formatted to meet Border Patrol's operational constraints.

<sup>39</sup>This training came in addition to the basic environmental and cultural resource awareness training that Border Patrol provides to all new agents.

modify their patrols. For example, 10 patrol agents in charge said that their agents' increased environmental awareness had helped reduce off-road driving in environmentally sensitive areas and that, when possible, agents were more likely to use foot or horse patrols instead of vehicle patrols.

Nevertheless, almost all patrol agents-in-charge reported wanting more frequent, land-unit-specific, in-person training for their agents. For example, 11 patrol agents-in-charge reported wanting more frequent training, including regular refresher training, and suggested frequencies for this training that ranged from quarterly to annually. Further, 9 patrol agents-in-charge reported that having information delivered by land managers was the clearest, most effective way to communicate with agents. Three patrol agents-in-charge also said they would like training to be area-specific, meaning that the training should describe the specific natural and cultural resources of the area they patrol. For example, endangered species may exist in one area and not another; as a result, patrol agents-in-charge told us that training on how to patrol in such areas would be more useful than general guidance on avoiding off-road patrols when not absolutely necessary. Land managers and other officials told us that limited resources and competing priorities, combined with the high rate of turnover among Border Patrol agents, can make it difficult to provide timely, in-person training on a regular basis.

Recognizing the need for natural and cultural resource training for Border Patrol agents, DHS, Interior, and Forest Service formed an environmental and cultural stewardship training task force in 2009. Officials of these agencies told us that the task force is developing a content outline for a national training module and has collected nationwide information on training that land managers have provided to Border Patrol stations, discussed requirements for the national module, and discussed an overall strategy for implementing the module. As of September 2010, the task force had not made any decisions on what information the training module is to include and had not yet conducted outreach to field-level individuals on training content needs, according to DHS and Interior officials involved in developing the training. Stakeholder involvement throughout the planning and development of such a training program contributes to

accomplishing the agencies' missions and goals, as we have previously reported.<sup>40</sup> Adopting core characteristics of a strategic training and development process can also help ensure that agencies' training investments are targeted strategically and not directed toward efforts that are irrelevant, duplicative, or ineffective.

### Protecting Staff and Visitors

Some land managers have also used data provided by Border Patrol on cross-border illegal activity to help make decisions related to staff and visitor safety. For example, managers of some federal lands have placed signs warning the public that they may encounter cross-border illegal activity or have distributed border safety awareness flyers at visitor centers and trailheads (see figs. 13 and 14).

**Figure 13: Warning Sign at Coronado National Memorial, Arizona**



Source: National Park Service.

<sup>40</sup>GAO, *Human Capital: A Guide for Assessing Strategic Training and Development Efforts in the Federal Government*, GAO-04-546G (Washington, D.C.: March 2004).

**Figure 14: Warning Sign at Organ Pipe Cactus National Monument**



Source: National Park Service.

In some cases, federal land managers have closed portions of their lands to the public and restricted staff access to certain areas unless accompanied by law enforcement agents. As illustrated by the following examples, Interior and the Forest Service have faced numerous challenges providing a safe environment for visitors, employees, and residents while on federal lands along the southwestern border:

- In 2002 at Organ Pipe Cactus National Monument, a drug smuggler shot and killed a park ranger. Following this and other increasing reports of violence, about half of the monument has been closed to the public since 2007.
- In 2005, five undocumented aliens were found murdered at Buenos Aires National Wildlife Refuge in Arizona. As the result of illegal activity and heavy law enforcement action, about 3,500 acres have been closed to the public since 2006.
- In a 2006 testimony, the supervisor of Cleveland National Forest stated that armed bandits had threatened, robbed, raped, and assaulted undocumented aliens traveling through the

forest—and that money, firearms, and other personal possessions had been taken from national forest employee and private residences.

- In 2008, Cabeza Prieta National Wildlife Refuge began requiring law enforcement escorts for refuge staff and volunteers working in an area where Border Patrol agents and contractors had been threatened by armed individuals. These escorts are still required.
- In 2009, the South Texas Refuge Complex reported that most refuge tracts adjacent to the Rio Grande were indefinitely closed to visitors because of illegal immigration, human smuggling, and drug smuggling.

In addition, the Fish and Wildlife Service reported in a 2007 internal document that it had not done enough to inform the public and key political officials about the dangers presented by cross-border smuggling activities. Illustrating this shortcoming, Fish and Wildlife Service South Texas Refuge Complex officials told us that refuge staff will tell visitors of potential border issues during their visit, but that no standard public notification system exists, such as handouts, signs, or other means.

Interior lacks a nation- or border-wide system to analyze trends in illegal activity, according to department headquarters officials. These officials told us, however, that Interior is in the early stages of developing an incident management analysis and reporting system to provide a method for collecting, analyzing, and reporting information on illegal activity from all bureaus.

Furthermore, these officials explained that this system is to assist officials in making staff and visitor safety decisions on Interior lands.

#### Establishing Conservation Measures to Reduce Adverse Effects to Endangered Species and their Habitats

The Fish and Wildlife Service has also used data related to the environmental impacts of cross-border illegal activity to prepare biological opinions that establish measures to reduce adverse potential effects of Border Patrol actions on endangered species and their critical habitats along

the southwestern border. For example, in a 2009 biological opinion, the Fish and Wildlife Service analyzed data on Border Patrol agents' off road vehicle use, routine base of operations activities, and road dragging, among other activities. They determined that these activities disturbed the endangered Sonoran pronghorn and that establishment of a Border Patrol base of operations—including housing, lighting, parking, fuel, and generators for agents stationed at the base—contributed to the disturbance of the herd by disrupting a traditional pronghorn travel route. To mitigate these and other adverse impacts, Border Patrol agreed that no aircraft use, off road vehicle travel, or other activities would occur within a quarter-mile of Sonoran pronghorn waters, forage plots, and the captive breeding pen, except in emergency situations as defined by the 2006 memorandum of understanding.

In south Texas, the Fish and Wildlife Service analyzed data on present and past Border Patrol activities—including portable and permanent lighting, clearing of vegetation for patrol roads, and ports of entry, and patrolling activities along the Rio Grande River. The Fish and Wildlife Service determined that these activities have fragmented and reduced the amount of habitat suitable for the endangered ocelot. To minimize impacts to the ocelot and other species, Border Patrol agreed to a variety of measures, including working cooperatively with the Fish and Wildlife Service to identify lighting sites that would use 450-watt bulbs instead of 1,000-watt bulbs and reducing the number of roads through the river corridor to reduce habitat fragmentation.

The Fish and Wildlife Service also collected data on the environmental effects that construction, operation, and maintenance of *SBI*net towers in the Tucson Sector—including the construction and repair of roads and the placement of underground sensors—would have on several threatened and endangered species, including the Chiricahua leopard frog, Mexican spotted owl and its critical habitat, jaguar, lesser long-nosed bat, and Pima pineapple cactus. Land managers collected data on a range of impacts on these species, including habitat disturbance and loss; loss of foraging habitat; disturbance from nighttime lights and noise associated with construction, generators, and helicopter landings; and the potential to introduce nonnative plant species that contribute fuel to wildland fires. To minimize these impacts, Border Patrol agreed to participate

in several species' recovery plans, to close and restore unauthorized roads to help offset the increase in new or improved roads, and to fund monitoring efforts for some species.

## **Conclusions**

The steady northward flow of illegal human and narcotics traffic across the nation's southwestern border shows no sign of stopping, and Border Patrol retains and asserts the ability to pursue undocumented aliens when and how it sees fit. Certain land management laws present some challenges to Border Patrol's operations on federal lands—limiting, to varying degrees, the agency's access to patrol and monitor some areas. With limited access for patrols and monitoring, some illegal entries may go undetected. This challenge can be exacerbated as illegal traffic shifts to areas where Border Patrol has previously not needed, or requested, access. Although mechanisms established in the 2006 memorandum of understanding provide a framework for Border Patrol and the federal land management agencies for resolving access issues, some issues remain unresolved. This is because land management agencies have not always been able to complete required environmental and historic property assessments in a timely fashion—often because of limited resources or competing priorities—and the agencies have not taken advantage of resources that Border Patrol may have to offer to more quickly initiate these assessments. In addition, conducting these required assessments on a case-by-case basis and not using programmatic environmental impact statements to comply with provisions of the National Environmental Policy Act may be missing opportunities to expedite Border Patrol's access to federal borderlands.

Border Patrol agents and land managers agree that Border Patrol's presence is needed to protect natural and cultural resources on federal lands because fewer illegal entries, for instance, means less human traffic over environmentally sensitive areas. What agents perceive as routine patrol operations, however, can also have a lasting negative effect on the environment. Border Patrol has provided its new agents with some basic environmental training, but such training often is neither recurring nor specific to the land units that agents patrol. Land managers, on the other hand, have the natural and cultural resource expertise to share with agents about the potential environmental effects of their operations. Without more frequent and area-specific

environmental and cultural resource training by land managers, Border Patrol agents may lack the awareness to modify their patrols in environmentally sensitive areas.

### **Recommendations for Executive Action**

To improve the effectiveness of Border Patrol operations while also protecting cultural and natural resources on federal lands along the southwestern border, we recommend that the Secretaries of Homeland Security, the Interior, and Agriculture take the following two actions:

- To help expedite Border Patrol's access to federal lands, the agencies should, when and where appropriate, (a) enter into agreements that provide for Border Patrol to use its own resources to pay for or to conduct the required environmental and historic property assessments and (b) prepare programmatic environmental impact statements for Border Patrol activities in areas where additional access may be needed.
- As DHS, Interior, and the Forest Service continue developing a national training module on environmental and cultural resource stewardship, the agencies should incorporate the input of Border Patrol agents and land managers into the design and development of the training content, which may include training that is recurring, area-specific, and provided by land managers.

### **Agency Comments and Our Evaluation**

We provided a draft of this report for review and comment to the departments of Homeland Security, the Interior, and Agriculture. In their written comments, officials from Homeland Security, Interior, and Agriculture [agreed/disagreed] with the report's conclusions and recommendations. Their written comments are reprinted in appendixes III, IV, and V, respectively. The departments also provided technical comments, which we incorporated into the report as appropriate.

We are sending copies of this report to the appropriate congressional committees; the Secretaries of Homeland Security, the Interior, and Agriculture; and other interested parties. In addition, this report is available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or [mittala@gao.gov](mailto:mittala@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix VI.

Anu K. Mittal

Director, Natural Resources and Environment

*List of Requesters*

The Honorable Rob Bishop  
Ranking Member  
Subcommittee on National Parks, Forests, and Public Lands  
Committee on Natural Resources  
House of Representatives

The Honorable Peter King  
Ranking Member  
Subcommittee on Border, Maritime, and Global Counterterrorism  
Committee on Homeland Security  
House of Representatives

The Honorable John Culberson  
House of Representatives

The Honorable Louie Gohmert  
House of Representatives

The Honorable Darrell Issa  
House of Representatives

The Honorable Michael T. McCaul  
House of Representatives

The Honorable Ted Poe  
House of Representatives

The Honorable Lamar Smith  
House of Representatives

The Honorable Tom Coburn  
United States Senate

The Honorable James Inhofe  
United States Senate

The Honorable Jim DeMint  
United States Senate

The Honorable David Vitter  
United States Senate

## **Appendix I: Objectives, Scope, and Methodology**

Our objectives were to (1) describe the key land management laws Border Patrol operates under and how Border Patrol and land management agencies coordinate their responsibilities under these laws, (2) examine how Border Patrol operations are affected by these laws, and (3) identify the extent to which land management agencies collect data related to cross-border illegal activities and associated environmental impacts and how these data are used.

To describe the key land management laws Border Patrol operates under and how Border Patrol and land management agencies coordinate their responsibilities under these laws, we examined agency documents describing the laws that apply to Border Patrol operations on federal lands along the southwestern border and documents describing how Border Patrol and land management agencies are to coordinate their responsibilities under these laws. We corroborated our selection of key laws through interviews with Border Patrol, the Department of the Interior, and U.S. Forest Service officials in headquarters and at the field unit level. To determine how Border Patrol and land management agencies coordinate their responsibilities under these laws, we interviewed relevant agency officials; reviewed local agreements, including documentation from local working groups and forums, and documentation related to a legal settlement over Border Patrol activities in areas with endangered species; and we reviewed the provisions of the 2006 interagency memorandum of understanding between the Department of Homeland Security (DHS), Interior, and the Department of Agriculture. In our interviews with Border Patrol agents and land managers, we determined how these various coordinating mechanisms have helped the agencies implement their respective legal responsibilities.

To examine how Border Patrol's operations are affected by the laws we identified, we conducted selected site visits to 10 federal land units and to Border Patrol stations responsible for patrolling these units in Arizona, California, and Texas. We selected these units, and the stations responsible for patrolling them, on the basis of geographical diversity, the extent of and impact from cross-border illegal activity, and the type of land management agency. Further, we conducted telephone interviews with land managers for federal land units along the border that

we did not visit, including those in New Mexico. In total, we interviewed land managers responsible for 18 federal land units along the southwestern border. Although the information we obtained is not generalizable to all land units in the borderlands region, it represents a full spectrum of information available on the extent of and impact from cross-border illegal activity. In addition, we developed and used a structured interview to obtain the views of Border Patrol patrol agents-in-charge of the 26 Border Patrol stations in the borderlands region with primary responsibility for patrolling federal lands along the southwestern border. We surveyed these agents on whether and to what extent their operations have been affected by land management laws.<sup>41</sup> We also analyzed documentation on how Border Patrol measures the effectiveness of its operations and reviewed 2 years (2009 and 2010) of Border Patrol operational assessments.

To examine the extent to which land managers collect data related to cross-border illegal activities and associated environmental impacts and how these data are used, we obtained a variety of data from land managers. Specifically, we identified what kinds of data land managers have collected and what kinds of data they have relied on Border Patrol to provide, and we reviewed the varying amounts and types of data that land managers had on the environmental effects of cross-border illegal activities. We also reviewed data that land managers have collected on the environmental effects of Border Patrol's response to cross-border illegal activities, such as constructing fences and using vehicles off established roads to pursue suspected undocumented aliens. We also used information from our structured interviews with Border Patrol agents. Additionally, we obtained environmental data that DHS and land managers used to determine funding for mitigation efforts related to environmental damage caused by certain DHS border fencing projects. Through our interviews with land managers and reviews of their data collection efforts, we analyzed the various ways that land managers have used data on cross-border illegal activity and its environmental impacts. This analysis included reviewing how land managers have used data to set priorities for and carry out cleanup and restoration work, reviewing the various types of environmental stewardship training provided by land managers to Border Patrol agents, reviewing numerous biological opinions related to Border Patrol activities, and

---

<sup>41</sup>In some cases, the patrol agent-in-charge designated the assistant patrol agent-in-charge or the field operations supervisor as the respondent to our structured interview because the patrol agent-in-charge was relatively new and, thus, less familiar with how land management laws may effect Border Patrol operations.

documenting various ways land managers help ensure staff and visitor safety on federal lands. We corroborated these data by obtaining and reviewing them where possible.

We conducted this performance audit from December 2009 through November 2010, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

**Appendix II: Mitigation Projects to Be Funded under a DHS and Interior Interagency Agreement**

<b>Interior priority number</b>	<b>Project</b>	<b>State</b>	<b>Project cost</b>
1	Borderwide mitigation coordinator		\$685,500
2	Implementation of Sasabe biological opinion (jaguar, bat, and soil stabilization)	Ariz.	2,119,000
3	Implementation of Lukeville biological opinion (Sonoran pronghorn, bat conservation)	Ariz.	980,000
4	Hidalgo County ocelot and jaguarundi corridor	Tex.	7,747,028
5	Correction of San Bernardino Valley construction deficiencies	Ariz.	1,203,480
6	San Bernardino Yaqui fish and leopard frog mitigation	Ariz.	453,250
7	Peninsular bighorn sheep study	Calif.	230,000
8	Cameron County ocelot and jaguarundi corridor	Tex.	13,236,672
9	Quino checkerspot butterfly, gnatcatcher	Calif.	14,100,000
10	San Pedro River mitigation for water use	Ariz.	200,000
11	Otay Mountain arroyo toad mitigation	Calif.	1,100,000
12	Coronado National Memorial bat mitigation	Ariz.	360,000
13	Northern Aplomado falcon habitat restoration and reintroduction	N.Mex.	499,700
14	Lesser long-nosed bat and Mexican long-nosed bat	Ariz.- N.Mex.	1,930,000
15	Chiricahua leopard frog propagation	N.Mex.	290,000
16	Freshwater sources for ocelot and jaguarundi	Tex.	100,000
17	Pima pineapple cactus habitat	Ariz.	282,000
18	Purchase of Babacomari Ranch conservation easement	Ariz.	1,020,000
19	Jaguar monitoring and conservation	Ariz.- N.Mex.	3,100,000
20	Southwestern willow flycatcher habitat restoration	Ariz.	854,000
21	Cabeza Prieta Sonoran pronghorn and bat mitigation	Ariz.	221,800
22	Flat-tailed horned lizard habitat replacement	Ariz.	53,563
23	Sonoran tiger salamander habitat improvement and reintroduction	Ariz.	83,000
24	Chiricahua leopard frog disease inventory and predator removal	Ariz.	369,000
25	Mexican spotted owl habitat protection	Ariz.	440,000
26	Closure and restoration of unauthorized roads	Ariz.	687,500
27	Protection of ridge-nosed rattlesnake habitat	N.Mex.	79,500
28	Survey of Sneed's pincushion cactus habitat	N.Mex.	10,000
29	Desert bighorn sheep water source enhancement	N.Mex.	39,600
<b>Total</b>			<b>\$52,474,593</b>

Source: U.S. Fish and Wildlife Service.

**Appendix III: Comments from the Department of Homeland Security**

**Appendix IV: Comments from the Department of the Interior**

**Appendix V: Comments from the Department of Agriculture**

## **Appendix VI: GAO Contact and Staff Acknowledgments**

### **GAO Contact**

Anu K. Mittal at (202) 512-3841 or [mittala@gao.gov](mailto:mittala@gao.gov)

### **Staff Acknowledgments**

In addition to the contact named above, David P. Bixler, Assistant Director; Nathan Anderson; Ellen W. Chu; Charlotte Gamble; Rebecca Shea; Jeanette Soares, and Rich Stana made major contributions to this report. Also contributing to this report were Joel Aldape, Lacinda Ayers, Muriel Brown, and Brian Lipman.

(361148)

