

Environmental Protection and Border Security on the U.S.-Mexico Border

Tenth Report of the Good Neighbor Environmental Board to the President and Congress of the United States

March 2007



About the Board

The Good Neighbor Environmental Board is an independent U.S. Presidential advisory committee that operates under the Federal Advisory Committee Act (FACA). Its mission is to advise the President and Congress of the United States on “good neighbor” environmental and infrastructure practices along the U.S. border with Mexico. The Board does not carry out border-region environmental activities of its own, nor does it have a budget to fund border projects. Rather, its unique role is to step back as an expert, nonpartisan advisor to the President and Congress and recommend how the federal government can most effectively work with its many partners to improve the environment along the U.S.-Mexico border. Under Presidential Executive Order, its administrative activities were assigned to the U.S. Environmental Protection Agency (EPA) and are carried out by the EPA Office of Cooperative Environmental Management.

Membership on the Board is extremely diverse. It includes senior officials from a number of U.S. federal government agencies and from each of the four U.S. border states—Arizona, California, New Mexico, and Texas. It also includes representatives from the tribal, local government, nonprofit, ranching and grazing, business, and academic sectors. In addition, the Board maintains dialogue with its counterpart Mexican environmental agency advisory groups, and the Consejos Consultivos para el Desarrollo Sostenible (CCDS), referred to as Consejos, to help ensure that it remains informed about issues on the Mexico side of the border.

The Board meets three times each calendar year in various U.S. border communities and in Washington, DC. Its advice is submitted to the U.S. President and Congress in the form of annual reports that contain recommendations for action. These recommendations are submitted after consensus is reached across the entire membership. They are shaped by the combined expertise of the Board members, by the Board’s ongoing dialogue with its Consejo counterpart groups, and by the speakers and concerned citizens from both sides of the border who attend its meetings in border communities. The Board also occasionally issues Comment Letters during the year to provide input on timely topics. One of the most frequently recurring themes in its advice is that support for cross-border cooperation is essential if sustained progress is to be made on environmental issues along the U.S.-Mexico border.

All meetings of the Good Neighbor Environmental Board are open to the public. For more information, see the Board Web Site, <http://www.epa.gov/ocem/gneb>, or contact the Designated Federal Officer, Elaine Koerner, at (202) 233-0069 or koerner.elaine@epa.gov.

Notice: This report was written to fulfill the mission of the Good Neighbor Environmental Board (the Board); a public advisory committee authorized under Section 6 of the Enterprise for the Americas Initiative Act, 7 USC § 5404. It is the Board’s Tenth Report to the President and Congress of the United States. EPA manages the operations of the Board. This report, however, has not been reviewed for approval by EPA and, hence, the report’s contents and recommendations do not necessarily represent the views and policies of EPA, nor of other agencies in the Executive Branch of the Federal Government, nor does mention of trade names or commercial products constitute a recommendation for use.

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<http://www.epa.gov/ocem/gneb/gneb10threport/English-GNEB-10th-Report.pdf>

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March 14, 2007

The President
The Vice President
The Speaker of the House of Representatives

On behalf of the Good Neighbor Environmental Board, your advisor on environmental and infrastructure conditions along the U.S.-Mexico border, I am pleased to submit to you the *Tenth Report of the Good Neighbor Environmental Board to the President and Congress of the United States*.

This year, our advice addresses the intersection of U.S.-Mexico border security and environmental protection. We have focused our attention on two topics: undocumented human crossings and hazardous materials crossings. To address the challenges associated with undocumented human crossings, while also protecting the region's fragile environment, we advise that federal policymakers concentrate on two areas: (1) stronger communication and collaboration between security agencies and environmental protection agencies, including land management agencies; and (2) more strategic mixing of technology, infrastructure, and personnel to reflect differing security and environmental needs for different sections of the border region. To address the challenges associated with hazardous materials crossings, while also continuing to protect the environment, we also single out two areas: (1) at ports of entry—promote enhanced inspection, cooperation, and replication of best practices; and (2) beyond ports of entry—enable more robust hazardous materials tracking and fully support emergency responders through increased training, improved equipment, and greater ease of movement when responding to crossborder emergencies.

We appreciate the opportunity to offer these recommendations to you in this, our Tenth Report, and respectfully request a response. In addition, we welcome continued dialogue with the Executive Branch and Congress on implementation of our advice.

Respectfully yours,

Paul Ganster,
Chair

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Tenth Report of the Good Neighbor Environmental Board

“Environmental Protection and Border Security on the U.S.-Mexico Border”

Recommendations at a Glance

Undocumented Human Crossings

To address problems associated with unauthorized flows of people across rural areas of the U.S.-Mexico border, and also continue to protect the environmental quality of the region, the Good Neighbor Environmental Board recommends:

Strengthen communication and collaboration between security agencies and environmental protection agencies, including land management agencies, on both sides of the border. Early and ongoing cooperation and participation in the cross-agency dialogue will contribute to effective solutions that serve the core agency missions of homeland security and environmental protection, while also addressing quality of life concerns of border communities.

Strategically employ a mix of technology and personnel to meet the security and environmental needs of different sections of the border region. Vehicle barriers and sensor technology along the boundary that permit habitat connectivity and migration of important species can serve well in rural areas characterized by fragile habitats.

Hazardous Materials Crossings

To provide safety and security at ports of entry and beyond, as well as environmental protection from risks associated with the transborder flow of hazardous materials, the Board recommends:

At ports of entry, increase the number of hazmat inspectors and establish specific sites and hours for hazmat vehicles. Duplicate successful approaches, including use of appropriate technology. Increase cooperation between environmental agencies and security agencies through approaches that reflect site-specific language and staffing requirements.

Beyond ports of entry, resolve liability issues for cross-border emergency responders and provide targeted support that reflects the needs of border communities within the larger national strategic plan. Document and share best emergency response practices. In addition, increase dialogue with tribal entities about hazardous materials transported near and through tribal lands and increase tribal participation in training exercises.

www.epa.gov/ocem/gneb

Introduction

For its Tenth Report to the President and Congress, the Board examines the **environmental ramifications** of an issue that has taken center stage on the domestic policy scene: homeland security. More specifically, it looks at how environmental protection and homeland security activities intersect along the U.S.-Mexico border and the dynamics that result. The outcome: a set of recommendations on how the U.S. federal government can help maintain strong environmental protection along the border while also strengthening border security activities.


To keep its recommendations focused, the Board decided to concentrate primarily on two types of border security activities and the events during 2006 that helped to shape them. The first type relates to the potential environmental impacts of undocumented human crossings, such as undocumented migrants and drug traffickers, and the security work that is carried out to prevent these crossings. While recognizing that some unauthorized human crossings take place via vehicles at major ports of entry, the Board decided to focus primarily on crossings in more rural areas. It looked at potential impacts on both human health and ecosystems.

One theme that emerges is the need for a more strategic approach to mitigate the unintended environmental degradation that may occur while working to prevent undocumented human crossings. For example, high-speed chases may inadvertently damage fragile desert ecosystems by destroying plants and animals, disrupting migration routes, and accelerating soil erosion. In addition, there is concern

that Border Patrol activities on the Rio Grande River levees, which protect the Lower Rio Grande Valley from flooding, are degrading the integrity of these levees. Thus, in some cases, stepped-up border security activities may undo the careful stewardship implemented by state and federal land management agencies for decades. At the same time, when large numbers of undocumented migrants are able to cross the border, there also may be environmental impacts. For example, trash and human waste may be left behind scattered about the landscape, which can threaten human health and the environment.

The second type of border security activity addressed in this report relates to the cross-border shipment of hazardous materials and hazardous waste. Topics covered include the inspection, enforcement, tracking, and emergency preparedness activities at ports of entry and beyond that are part of this process. Conveyance methods include materials carried by truck and railroad but not cross-border pipelines of natural gas, petroleum, and petroleum products.

By contrast with human crossings, at ports of entry commercial crossings, border security work and environmental protection work often go hand in hand. In fact, a lack of resources for this type of border security work may well result in environmental damage. For example, insufficient emergency response equipment and training may compromise the ability to respond effectively to a hazardous material spill that pollutes a nearby river or aquifer. Thus, one theme that emerges in this section of the report is the need for more resources that enable this combined environmental protection and security work to be strengthened.



The border fence at Otay Mesa between San Diego and Tijuana. The fence is constructed of surplus steel landing mats. A border monument, maintained by the International Boundary and Water Commission is in the right foreground and construction of the double fence and associated infrastructure can be seen on the left beyond the landing mat fence. (Source: Paul Ganster, San Diego State University)

The Board consciously decided not to include additional significant environmental ramifications such as air pollution resulting from delayed security inspections at ports of entry (see Board's Ninth Report, <http://www.epa.gov/ocem/gneb/gneb9threport/English-GNEB-9th-Report.pdf>); ecosystem security threats from invasive species (see Board's 2004 Comment Letter on this topic); and pesticide drift. Nor, for the most part, does the Board discuss the links between environmental quality and domestic policy in other areas such as immigration, economic development, and trade—although it recognizes the value of examining these links. Its approach, primarily, was to formulate recommendations based on current border security policies and environmental policies.

Communities along the southwest border of the United States face a unique set of challenges, and they deserve special environmental policy attention as border security work there intensifies. From the Board's perspective, a critical window of opportunity exists to strengthen partnerships between security institutions and environmental protection institutions on both sides of the border. These partnerships should include both nongovernmental and governmental entities at all levels, including tribes. For instance, the U.S. Department of Homeland

Security has the opportunity to build a strong environmental ethic into its policies as the Department continues to redefine roles and responsibilities. It also has the opportunity to improve stakeholder understanding of its environmental and security practices through increased transparency and communication. Other opportunities need to be identified and acted on, and existing partnerships at all levels need to be highlighted.

Securing our borders is important, but environmental protection must not be relegated to a second-class seat behind the security policy-making table. Strong security and strong environmental protection along the U.S.-Mexico border can go hand in hand. The federal government has a pivotal role to play within this scenario. It is hoped that the recommendations that follow will help move that win-win process forward.



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A combination of barriers and surveillance technology is used along the U.S.-Mexico border to help the Border Patrol address security concerns. **(1)** Bollard barrier, a combination of concrete columns with mesh fencing on top, located near the International Wastewater Treatment Plant in the Tijuana River Valley portion of San Diego, California. **(2)** High steel bar fence between Calexico, California, and Mexicali, Baja California. **(3)** Rio Grande River at Big Bend, Texas. **(4)** New fencing constructed of surplus steel landing mat, together with stadium lighting, east of Naco, Arizona. **(5)** Cattle crossing barrier on Tohono O'odham Nation borderland south of Sells, Arizona. **(6)** Multiple fencing, access roads, and stadium lighting east of the San Ysidro Port of Entry, California. **(7)** Tower with video camera east of Douglas, Arizona. **(8)** Vehicle barrier in eastern San Diego County, designed to allow water drainage and small animal crossings while inhibiting vehicle crossings. **(9)** Barbed wire fencing in the San Rafael Valley east of Nogales, Arizona/Sonora. (Source: Paul Ganster, San Diego State University)

Context

Homeland security is a complex and multilayered subject, especially as it is manifested at the southern border of the United States. Residents of Mexico and beyond, seeking a better way of life for themselves and their families, have been crossing the U.S.-Mexico border without valid U.S. documentation for decades. Accompanying this ever-larger flow of migrants have been criminal elements engaged in a range of illicit activities. These criminal activities include human smuggling by *coyotes*, drug trafficking, and crimes against undocumented border crossers such as assault, robbery, and murder. Because the immediate effects of these migration flows have been

confined largely to border communities in the southwest region of the country, unauthorized migration has received only sporadic widespread national attention in the past.

The terrorist attacks of September 11, 2001, however, changed all of that. The impact of the attacks, combined with other border issues such as unprecedented levels of undocumented migration over the past decade and a half, sharpened the attention of the national policy community on border security matters. The first of these issues was drug smuggling, which produced a wave of violence in Mexican and U.S. border communities, as well as large narcotics



Homeland security along the 1,952-mile U.S. border with Mexico is a complex and multilayered topic. (Source: Harry Johnson, San Diego State University)

DHS Organizational Chart
Secretary
Deputy Secretary
Chief of Staff
Executive Secretary
Military Liaison
Under Secretary Management
Under Secretary Science and Technology
Assistant Secretary Policy
Under Secretary Preparedness
Under Secretary Federal Emergency Management (FEMA)
General Counsel
Assistant Secretary Legislative and Intergovernmental Affairs
Assistant Secretary Public Affairs
Inspector General
Assistant Secretary Office of Intelligence and Analysis
Director Operations Coordination
Director Office of Counternarcotics Enforcement
Ombudsman Citizenship and Immigration Services
Privacy Officer
Civil Rights and Civil Liberties Officer
Director Federal Law Enforcement Training Center
Director Domestic Nuclear Detection Office
Federal Coordinator Gulf Coast Rebuilding
Assistant Secretary Transportation Security Administration
Commissioner United States Customs and Border Protection
Director United States Secret Service
Director United States Citizenship and Immigration Services
Assistant Secretary Immigration and Customs Enforcement
Commandant, U.S. Coast Guard

The Department of Homeland Security (DHS) is an umbrella institution of more than 180,000 employees in a range of previously independent security agencies. Customs and Border Protection (CBP), within DHS, plays the most critical role in securing the U.S.-Mexico border. The Border Patrol is within CBP. (Source: <http://www.dhs.gov/index.shtml>)

seizures. Arrests of U.S. and Mexican officials, along with career criminals, produced the widely held image in the United States that the border was lawless and out of control. This image has been reinforced by the continued flow of undocumented immigrants across the border.

The outcome was an intensified focus on increasing border controls. Some observers thought that because so many undocumented workers crossed the border easily, so could terrorists. They reasoned that recent data from Immigration and Customs Enforcement (ICE) indicated that drugs are regularly smuggled across the border in huge quantities and, therefore, the same could happen with dangerous quantities of hazardous materials.

Even as security concerns have increased and the federal response to these concerns has seen greater resources devoted to security practices, environmental conditions along the U.S.-Mexico border remain fragile. As the Good Neighbor Environmental Board pointed out in previous annual reports to the President and Congress, a range of serious environmental management and protection problems remain. These challenges include the difficulty of managing water resources in a binational context; water requirements for rapid economic development and urbanization colliding with limited water supplies in the arid climate; the complexity of managing threatened and endangered species in a cross-border region; and addressing air pollution within binational air basins.

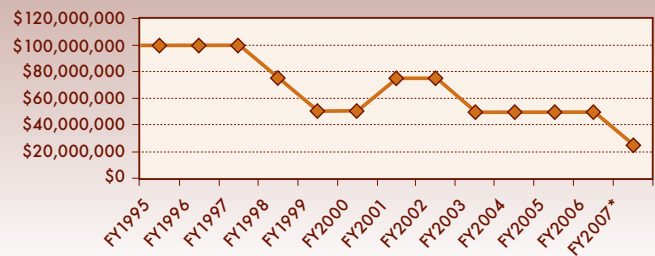
Now, with heightened security concerns, these already fragile environmental conditions are being subjected to additional pressures from both stepped-up security efforts and from the cross-border flows of undocumented migrants and criminal activities. Previous initiatives beginning in the early 1990s to tighten border security at the largest urban crossings such as San Diego and El Paso have driven undocumented human crossers into more remote areas of mountainous and desert terrain. To carry out their border security responsibilities in these rural areas, the Border Patrol and other supporting agencies use four-wheel-drive vehicles, all terrain vehicles, horse patrols, and aircraft. Makeshift access roads prone to erosion also are constructed in these areas. These security activities often inadvertently damage the landscape and wildlife habitat, leaving a heavy environmental footprint in their wake (see *Undocumented Human Crossings* section of this report).

Compounding the threat to environmental quality are the individuals the Border Patrol is trying to apprehend—undocumented migrants, including many women and children. These crossers, along with *coyotes* and drug smugglers, have opened networks of new footpaths and informal vehicle trails across the fragile landscape and have left behind abandoned vehicles and tons of clothing and trash. One such affected area is the Cabeza Prieta National Wildlife Refuge, named one of the 10 most endangered wildlife refuges in the country. Equally sobering is the fact that two other federal land areas in the region—the Buenos Aires National Wildlife Refuge and Organ Pipe Cactus National Monument—have had to close portions of their land to the public over the past several years because of security concerns surrounding smuggling. Media coverage of the Buenos Aires partial closure cited statistics indicating that more than 250,000 illegal immigrants had entered the refuge in 2004 and 2005, cutting more than 1,300 miles of trails through the native grassland; it could take more than a century for some of these areas to recover.

Within this complex scenario, both environmental protection agencies and security agencies are finding it difficult to get their jobs done to their satisfaction. Developing successful strategies to achieve their respective missions is anything but a one-size-fits-all effort. The border region spans four U.S. states, six Mexican states, and extensive tribal lands. Roughly two-thirds of the 1,952 mile border lies in Texas and is demarcated by the Rio Grande River. Within Texas, the majority of the land along the riverbank is in private hands. By contrast, in New Mexico, Arizona, and California—except for a short stretch along the Colorado River—the boundary is a “line in the sand” drawn by human agency through treaty language. This line often is contiguous with land that is in the public domain in the form of national parks, national forests, military bases, Bureau of Land Management lands, or state and local parks and protected areas.

Significant areas of land along the border are held by sovereign tribal authorities, especially the Tohono O’odham Nation, whose reservation occupies some 75 miles along the border with Mexico. Tribes living on, or near, the international boundary are experiencing the consequences of the increased security in urban areas, which has been pushing undocumented migrant crossings into more rural areas, including tribal lands. Reservations in California such as Ewi-

Appropriations for Border Water Infrastructure (Entire Appropriated Amounts, Including Earmarks, PDAP, BEIF)



FY2007* - President's Budget as proposed to Congress.

The Border Environmental Infrastructure Fund enables U.S.-Mexico border communities to improve their wastewater treatment plants and other environmental infrastructure. As the chart above shows, funding has decreased in recent years. Whereas in the past, environmental protection competed primarily with economic growth, it now also finds itself in unfortunate competition with national security concerns, to the detriment of both important interests. (Source: Doug Liden, U.S. Environmental Protection Agency, Region 9)

aapaayp and Campo have been overwhelmed with trash left behind from undocumented human crossings and have experienced an increase in smuggling-related violence that creates dangerous conditions for some tribal environmental agency personnel.

Achieving both strong environmental protection and strong border security will entail scenario-specific approaches that are strategically planned and implemented through collaboration between environmental protection and security agencies, with full involvement of affected communities. In this section, we detail the complex socio-economic, cultural, and environmental context from which latter portions of the report explore the nexus of security and environmental concerns.

History of Environmental Protection and Border Security

To balance environmental protection efforts with national security efforts along the border, it is helpful to examine the history of both issues, including how the debate on border issues has changed since the events of September 11, 2001. Until the early 1980s, the environment/natural resources issue that merited the most formal binational attention was water supply. The surface waters of the two major border river systems, the Rio Grande/Río Bravo and the

Profile of U.S.-Mexico Border Region

The U.S.-Mexico border region is one of the most dynamic areas in the world in terms of its socio-economic characteristics, and it has a complex physical environment. The border zone is defined by the La Paz Agreement (see below) as the region that lies approximately 62.5 miles on each side of the international border. This international border extends 1,952 miles from the Pacific Ocean to the Gulf of Mexico.

Rapid population and economic growth continue to characterize the region, with the population expected to nearly double between 2000 and 2030. Currently, more than 11 million people live within the border zone of the 10 border states of California, Arizona, New Mexico, and Texas in the United States and Baja California, Sonora, Chihuahua, Coahuila, Nuevo León, and Tamaulipas in Mexico.

Most border residents are urban and live in 14 paired sister or twin cities—cities that lie directly across the border from one another. Residents of these sister cities make frequent crossings for work, schooling, and shopping and to visit family and friends. Although there are some affluent communities in the border region such as San Diego, overall it is among the poorest areas of the United States. If the U.S. border counties were considered the 51st state and compared to the rest of the states, it would rank last in access to health care; second in death rates caused by hepatitis; third in deaths related to diabetes; last in *per capita* income; first in the number of school children living in poverty; and first in the number of children without health insurance (from the U.S./Mexico Border Counties Coalition's *At the Cross Roads: US/Mexico Border Counties in Transition*, March 2006). The unauthorized settlements of the U.S. border region, the colonias, are symptomatic of the region's relative poverty. These unregulated settlements lack basic services such as potable water, sewage treatment, solid waste collection, or paved roads and sidewalks. In Texas alone, there are more than 400,000 residents in more than 1,500 colonias.

The culture of the region is largely Hispanic, including residents whose ancestors arrived in the borderlands centuries ago, as well as recent arrivals from Mexico. The region also is home to 26 federally recognized tribes, as well as related Native American groups that live in Mexico. Anglos add to this cultural mix, yielding a region with a range of cultural groups, practices, and values. Approximately 300 million legal human crossings take place northbound from Mexico into the United States each year through about 50 border crossings. Moreover, owing to large-scale migration flows related to economic factors, many other aliens enter without documentation. Some 1.1 million illegal immigrants were apprehended along the border with Mexico during the fiscal year that ended September 30, 2006; it is not known how many persons avoided apprehension and entered the United States without valid documents.

The U.S. and Mexican economies are deeply interconnected. Mexico is the second largest trading partner of the United States, and the United States is Mexico's largest. Major transportation corridors that slice through the border region help facilitate the \$292 billion in bilateral trade between the two countries. This economic integration is especially evident in the border region. Robust trade is partially a result of the *maquiladora* industry, in which manufacturing plants in Mexico—normally operating in conjunction with “twin plants” in the United States—assemble foreign industrial inputs and then export the finished goods. Much of the bilateral trade moves across the border between adjoining cities on trucks, saturating the border's transportation and port of entry infrastructure. (The resulting negative environmental effects, plus initiatives to address those effects, are detailed in the Board's *Ninth Report*.)

The region's physical environment is varied and complex. It includes deserts, mountain ranges, rivers, wetlands, estuaries, and shared aquifers. It also encompasses various climates, a remarkable biological diversity (including many rare and threatened species), and national parks and protected areas. Overall, the borderlands are characterized by aridity and fragility of ecosystems, which are under severe stress from the impacts of human activities.

Colorado River, were shared by the United States and Mexico according to the terms of the Convention of 1906 and the 1944 Water Treaty. This partition of surface waters is administered by the International Boundary and Water Commission, United States and Mexico (abbreviated as IBWC in English and CILA in Spanish).

As population increased in the border area, a number of longstanding environmental concerns became more acute, affecting residents and communities on both sides. Among the most prominent were drought and flooding, inadequate sanitation and water delivery and treatment infrastructure, dangers from pesticides and hazardous waste, loss of natural areas such as riparian habitat, depletion and contamination of aquifers, air quality issues in urban areas, smelter pollution of the “gray triangle” of the

Sonora-Arizona border region, and numerous attendant environmental health problems. Some of these issues were attributable to physical and climatic conditions, but most difficulties were human-induced. Among the causes of deteriorating environmental conditions were economic growth and industrialization, increased industrialized agricultural production, large population growth, and rapid urbanization. These developments stressed and strained the region's environment and natural resources and remained largely unaddressed at that point in time.

In 1983, however, the presidents of Mexico and the United States signed the *La Paz Agreement on Cooperation for the Protection and Improvement of the Environment*. The La Paz Agreement created binational workgroups to systematically address a range of border environmental problems, and it became the

basis for subsequent bilateral border environment agreements. In 1992, the U.S. Environmental Protection Agency (EPA) and its Mexican counterpart, *the Secretariat of Environment and Natural Resources (Secretaría del Medio Ambiente y Recursos Naturales, SEMARNAT)*, began to craft a series of binational environmental protection programs, the most recent of which is Border 2012. Additional motivation for stronger environmental protection came from the environmental side agreement of the North American Free Trade Agreement of 1994, which included creation of new binational and trinational environmental organizations.

Priorities for binational cooperation between the United States and Mexico undeniably shifted after the events of September 11, 2001. Though viewpoints differ as to what extent these events alone resulted in a much greater focus on border security, they undeniably played a strong role. Some observers would go on to say that the ensuing, refocused national security interests resulted in taking critical resources and attention away from the valuable binational environmental work being carried out along the border. Whereas in the past, environmental protection competed primarily with economic growth, it now also finds itself in unfortunate competition with national security concerns, to the detriment of both important interests.

Definitions of Security

Since the 9-11 attacks, a great deal of debate has emerged on what precisely is included within terms such as homeland security, environmental security, and national security as well as related concepts. Below are the definitions the Board selected for use as reference points as it developed the contents of this report.

Homeland Security—According to *The National Strategy for Homeland Security*, published by the U.S. Department of Homeland Security (DHS) in July 2002, homeland security is defined as “a concerted national effort to prevent terrorist attacks within the United States, reduce America’s vulnerability to terrorism, and minimize the damage and recover from attacks that do occur.” It describes six mission critical areas: intelligence and warning, border and transportation security, domestic counterterrorism, protecting critical infrastructure, defending against

catastrophic terrorism, and emergency preparedness and response.

Environmental Protection and Homeland Security—According to the *U.S. Environmental Protection Agency Homeland Security Strategy*, initially published in 2002 and revised in October 2004, the terrorist events of September 11, 2001, resulted in EPA’s mission being expanded beyond its traditional role of safeguarding the natural environment to also include protecting the environment from terrorist acts. It identifies five mission critical areas that are tied to the national homeland security strategy and also are specific to EPA’s work. These are critical infrastructure protection; preparedness, response, and recovery; communication and information; protection of EPA personnel and infrastructure; and evaluation for efficient use of resources.

Environmental Security—As described in *Desertification, Environmental Stress, and the Euro-Mediterranean Space*, by P. H. Liotta, environmental security focuses on how environmental quality may be degraded by human activities and how this degradation and scarcity of needed resources negatively impacts social welfare. The focus of security in this view deals with the security of human beings and society relative to access to adequate resources and environmental quality and not the hostile actions of other human beings. Accordingly, this view argues that environmental security and a more traditional view of security exist in a complex relationship of interdependence. Failure to effectively manage one facet of this relationship may lead to a threat to the other dimension.

Border Security—For the purposes of the *Tenth Report*, the Board has opted to view security at the U.S.-Mexico border as having two key components: addressing the impacts associated with the flow of undocumented migrants across the border (see *Undocumented Human Crossings* section of this report); and promoting the safe and efficient transportation of materials across the border (see *Hazardous Materials Crossings* section of this report). Note also that DHS’ *The National Strategy for Homeland Security* discusses the issues of border security and transportation security as one topic, and it includes both the northern and southern borders of the United States.

Border Environmental Security—To encourage a productive national policy discussion on how to balance the above interpretations of security, the Board offers a broad view of border environmental

Tribal Perspective

The U.S.-Mexico borderlands are home to 26 U.S. federally recognized Native American tribes (see map), as well as related Native American groups that live in Mexico. These groups face a range of issues associated with environment and security issues. In the United States for instance, tribes are required to apply for homeland security funds through state or county channels. States and counties, however, often do not receive enough funding themselves from the federal government to enable them to fund tribes as well. The result is that most tribes have difficulty obtaining funding to meet even minimal homeland security requirements (see *Border 2012 Tribal Accomplishments & Issues Report*, published in April 2006 by the Native American Environmental Protection Coalition). One exception is the Tohono O'odham Nation, which received funding from the DHS grants program through the Arizona State process for equipment and training.

Homeland security funding is critically needed because border-region tribes are being profoundly affected by the shift in undocumented border crossings to rural areas, including tribal lands. For instance, in the 1970s and 1980s, tribal reservations near the border in San Diego County experienced only occasional undocumented migrants and very little Border Patrol activity. Since the inception of Operation Gatekeeper in 1994, however, that scenario has changed dramatically. Case in point: El Hongo, a small Baja California community in the mountains east of Tecate near the border, has become a staging area for drug and undocumented alien traffickers, who cross the border into the backyards of the tribes.

Tribal land along the border has become a dumping ground for large amounts of solid waste left behind by undocumented migrants and drug smugglers. In addition, anecdotal evidence indicates that tribes are being affected by the law enforcement activities being carried out to apprehend the illegal aliens. For example, tribes have witnessed an increase in the number of arrests of both tribal and nontribal members in their communities as a result of harboring undocumented immigrants and/or possession of contraband. Tribal members also report that isolated gun battles between Border Patrol agents and illegal crossers, as well as car chase accidents, are threatening personal safety in their communities.

Besides the funding barrier and the impacts of enforcement activities, tribes also face information barriers. Many tribes in the United States have major transportation and trade corridors that cross through, or are adjacent to, their reservations; yet they do not have information about hazardous waste materials that are being transported along these corridors. Without this information, tribes cannot adequately prepare for responding to emergencies. The Torres Martinez Desert Cahuilla Indians, for example, have large numbers of trucks passing through their lands transporting hazardous materials between Mexicali and Los Angeles, but the tribe does not have access to truck manifest data to help them carry out emergency preparedness.

security as the mitigation and prevention of potential threats at U.S. borders to public health, environmental quality, and social infrastructure or economy. Border environmental security includes eliminating threats from undocumented human crossings as well as improper, unauthorized, or undocumented transport of hazardous, toxic, radiological, or pathological materials that could potentially cause any harm to the public and/or existing infrastructure or could potentially be used to threaten the security of the United States or its border allies. In addition, border environmental security involves ensuring the ability of communities to respond to nearby and border emergencies involving these substances or any other threat.

Environmental Protection Institutions

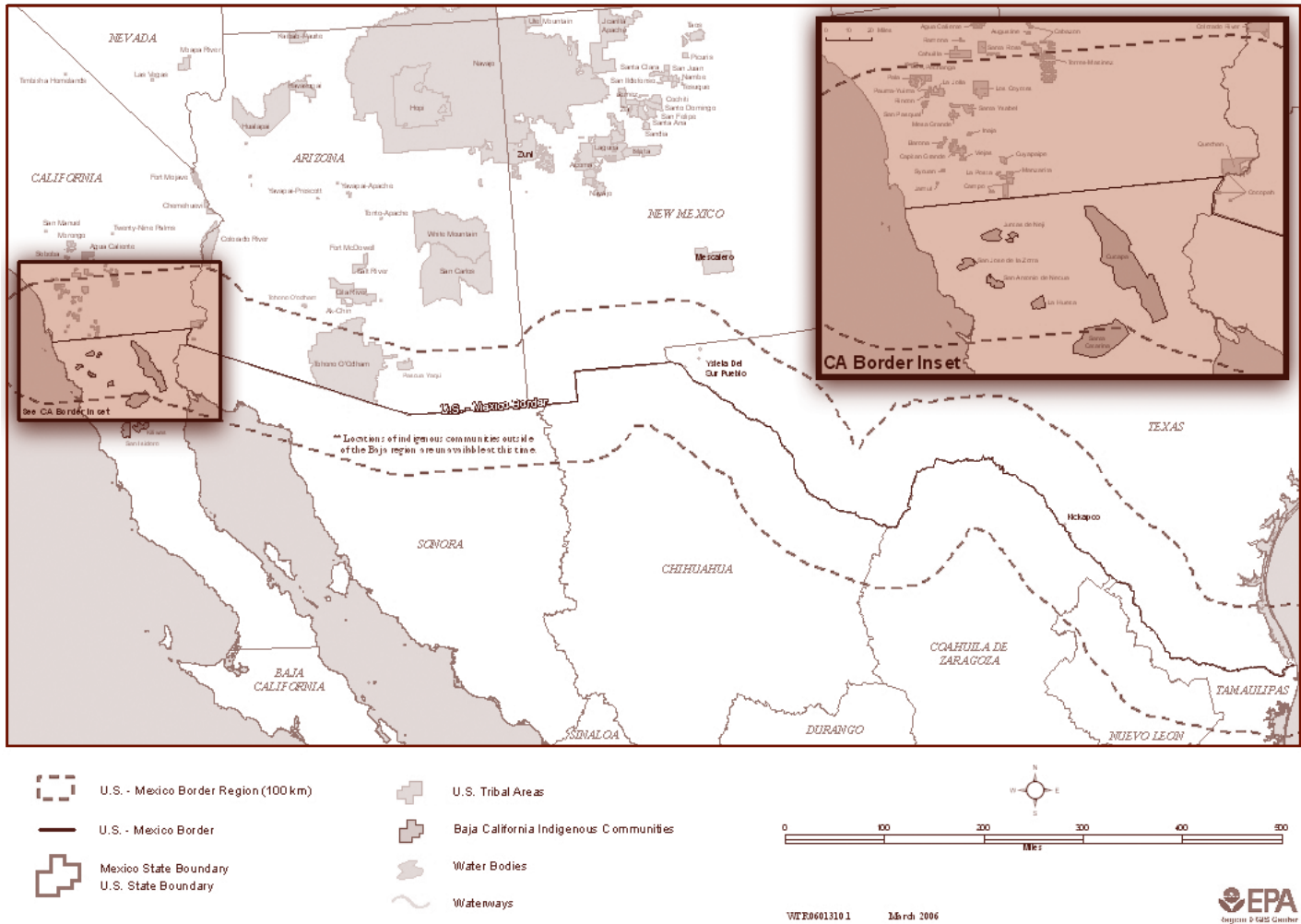
U.S. Institutions

Along the U.S. side of the border, the major agencies and institutions responsible for environmental protection operate at the federal, state, and local levels. Added to this complex mix of institutions are the activities of Native American tribes. Some of these tribal activities are undertaken in conjunction with state, federal, and local agencies, whereas others are undertaken as autonomous nations.

On the federal level, EPA establishes national standards and regulations to protect human health and the environment. Although EPA has the lead for regulation and enforcement for most environmental issues in the United States, other federal agencies, such as the U.S. Department of Agriculture and the U.S. Department of the Interior, cooperate in matters of land preservation and ecological protection. Additional federal agencies also play key roles in the border region. For example, under the National Environmental Policy Act (NEPA), federally funded projects such as building a dam must undergo an assessment of environmental impacts. Thus, agencies such as the U.S. Army Corps of Engineers, the U.S. Bureau of Reclamation, the U.S. Section of the IBWC, and agencies within DHS such as Customs and Border Protection (CBP) and ICE, may engage in environmental protection activities. An exception to the above rule is the recently enacted Real ID Act of 2005 (PL 109-13). It allows the Secretary of Home-



U.S. - Mexico Border Tribes and Indigenous Communities



Native American border-region communities face a range of challenges associated with environmental and security issues. (Source: U.S. Environmental Protection Agency, Region 9 GIS Center)

land Security to waive all legal requirements determined necessary to ensure expeditious construction of the barriers and roads needed to prevent illegal immigration, as was the case with the construction of the security corridor in the San Diego-Tijuana region.

State, local, and tribal environmental agencies come into the picture by being delegated authority for most federal regulatory programs, such as environmental permitting and compliance assurance. These agencies deal with air pollution and air quality issues, protection and regulation of surface and groundwater resources, solid and liquid waste disposal and management, occupational and environmental health, and hazardous materials and emergency response. Although every state in the United

States handles environmental protection differently, the issues themselves, and management approaches to responsibilities passed down from the federal level, often are similar. It should also be mentioned that in areas not reserved for the federal government, the states have developed quite distinct laws and regulations; groundwater is an example. In some cases, states actually may implement stronger laws and regulations than the federal government, as California recently did with rules and regulations that reduce greenhouse gas emissions in the state by 25 percent over the next 15 years. Local governments and related agencies also pass a range of laws and regulations that deal with environmental issues, adding to the complexity of environmental regulations across levels of government.



Both Organ Pipe Cactus National Monument and Buenos Aires National Wildlife Refuge have had to close portions of their land to the public during the past several years as a result of security concerns surrounding smuggling. Here, in nearby Coronado National Forest—which spans both sides of the Arizona border—federal officials have posted signs cautioning travelers that they may encounter smuggling and illegal immigration activities. (Source: Paul Ganster, San Diego State University)

Mexican Institutions

The international border separating the United States from Mexico delineates two starkly different cultures, economies, political systems, and public administration systems. The United States was created with a federal system, in which power is shared among the national government and the individual states. By contrast, in Mexico, authority, financing, and decision making primarily reside in the national government. Although there has been some gradual evolution toward decentralization in recent years, Mexico has retained a strongly centralized governing structure. State and municipal officials often are dependent on centrally disbursed revenue and have limited authority and budgets for managing local and regional affairs. In many cases, local delegates of federal agencies are the key administrative entities for local issues. This situation applies to nearly all aspects of governance to varying degrees: education, health, housing, labor, agriculture, energy—and, of course water, natural resources, and environment. Although decentralization through devolution of responsibilities and budgets from the federal government to state and municipal entities has been underway for decades, progress is slow.

Several federal institutions dominate environmental decision making in Mexico. The first is SEMARNAT, which is responsible for assuring envi-

ronmental sustainability, enforcing environmental quality standards, and representing Mexico in binational environmental cooperation. During the past 15 years, SEMARNAT has worked closely with EPA to develop and carry out a series of binational environmental initiatives based on the La Paz Agreement: the Integrated Border Environmental Plan, Border XXI, and, currently, Border 2012. SEMARNAT maintains regional offices in each of the states, and the agency is constrained by limited budgets, staffing, and influence among ministries. In addition, the National Water Commission (Comisión Nacional del Agua, CONAGUA) dictates most aspects of national water policy and is housed within SEMARNAT. By most accounts, however, CONAGUA is quasi-autonomous and represents the interests not only of SEMARNAT but also of several more powerful ministries: finance, agriculture, energy, health, social development, and administration. The priorities set by CONAGUA often reflect national development imperatives, with environmental interests holding secondary importance.

In addition, each of Mexico's states has its own environmental agency and water supply agency. Because these institutions are dependent on the central government for funding, however, their scope of action and their independence are circumscribed. At the same time, despite gains over the past decade, Mexican civil society has not kept pace with its U.S. analogue. For a variety of reasons—the difficulties of obtaining official status as nongovernmental organizations, the relatively recent rise of environmental activism, the relative lack of leisure time, and other social constraints—Mexican communities and nongovernmental organizations often have not had the influence gained by counterpart groups in the United States. The result is that environmental decision making in Mexico remains far more centralized, uniform, and government-dominated than in the United States. This situation has considerable impact on the ability of state and municipal governments in Mexico to effect environmental policy along its northern border with the United States.

Other Institutions

Besides these governmental institutions within the United States and Mexico, several international organizations have been created with environmental protection responsibilities: the North American

Development Bank, the Border Environment Cooperation Commission, and the trinational North American Commission for Environmental Cooperation. Also, under the framework of the La Paz Agreement, the Border 2012 U.S.-Mexico Environmental Program brings together many of these stakeholders and agencies to improve the border environment.

Note also that to enrich its recommendations to the U.S. President, the Good Neighbor Environmental Board actively communicates with representatives from counterpart Mexican advisory groups called *Consejos Consultivos para el Desarrollo Sostenible*. These *Consejos* are regional councils created by the Mexican federal government, which include elected and appointed stakeholders from all sectors, that address environment and development issues through their advice to Mexico's federal environmental agency, SEMARNAT (see *Business Report* section in this report).

The IBWC wields considerable clout on transboundary water-related issues along the U.S.-Mexico border. IBWC is comprised of two Sections, the U.S. Section and the Mexican Section, and is responsible for applying the boundary and water treaties between the two countries and settling differences that arise in their application. IBWC responsibilities include assuring the allotment of waters of the Rio Grande and Colorado River to each country in conformance with the water treaties, demarcating the boundary between the two countries, erecting and maintaining boundary monuments and markers on the international land boundary, addressing border sanitation problems, operating international dams, and handling other aspects of transboundary water management.

Nongovernmental organizations also have become active concerning environmental protection in the borderlands. Efforts of national organizations such as Environmental Defense, World Wildlife Federation, and Defenders of Wildlife in the United States and Pronatura in Mexico are notable. Locally, numerous nongovernmental organizations that address specific issues also play a role. For example, the Native Cultures Institute (Instituto de Culturas Nativas, commonly known as CUNA) is a Mexican nonprofit organization that addresses health, cultural, and environmental concerns of native peoples of Baja California, including the Paipai, Kumiai, Kiliwa, and Cucapa. Another example is the Environmental Health Coalition, which addresses environmental

justice and toxic waste issues in the California-Baja California border region. Most of the twin cities along the border have nongovernmental organizations that bring public participation to environmental policy formulation and implementation in the region.

Homeland Security Institutions

The major federal institution responsible for security in the United States is DHS. Created in 2002 by the Homeland Security Act, it is an umbrella institution of more than 180,000 employees in a range of previously independent security agencies. DHS contains the agency that plays the most critical role in securing the U.S.-Mexico border: CBP. Within CBP is the Border Patrol. CBP inspectors staff the ports of entry, whereas the Border Patrol operates primarily between ports of entry.

U.S. security agencies such as DHS base their strategies and actions, in part, on information that is gathered and analyzed by U.S. intelligence agencies. The National Implementation Plan was launched to eliminate overlap and set priorities for the nation's counterterrorism strategy, and the Office of the Director of National Intelligence provides overall coordination and direction for these activities.

Recent Developments

During the past 2 years, several key initiatives were advanced in the United States that are helping to shape border security and environmental protection efforts. First, as noted earlier in the report, the Real ID Act of 2005 (PL 109-13) was passed, which allows the Secretary of Homeland Security to waive all legal requirements determined necessary to ensure expeditious construction of the barriers and roads needed to prevent illegal immigration. This provision was invoked on September 22, 2005, for the construction of the security fence and corridor for the border between San Diego and Tijuana. The provision waives requirements of NEPA, Endangered Species Act, Coastal Zone Management Act, Clean Water Act, National Historic Preservation Act, Migratory Bird Treaty Act, Clean Air Act, and Administrative Procedures Act. DHS officials have explained that the agency exercised this option to move the project forward more rapidly, and before and after the exemption, DHS has continued to meet regularly with

Border Security, Environmental Protection, and the Private Sector

In the global marketplace, companies make decisions about where to site their facilities based on numerous considerations. Water resources, highway infrastructure, labor rates and worker availability, taxes, permits to operate, quality of life, and stability are just a few. Given these criteria, the economy of the border region stands to benefit from increased cooperation between security institutions and environmental protection institutions that strengthens both types of work.

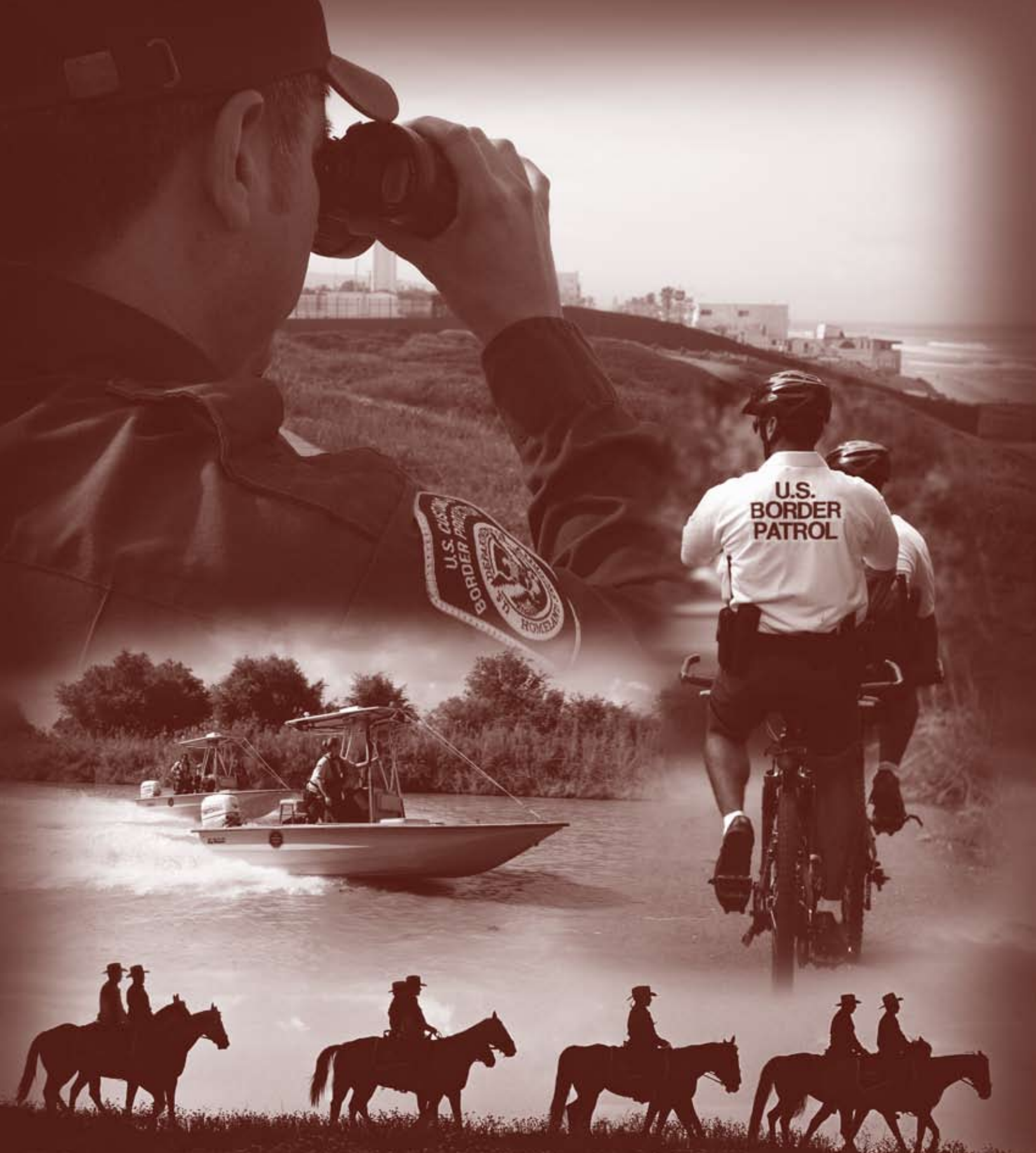
key state, local, and federal agencies and members of the public.

In May 2006, President Bush proposed the dispatch of 6,000 National Guard troops to the U.S.-Mexico border to assist Border Patrol agents with their work. Troops would be charged with helping to operate surveillance systems, analyze intelligence, install fences, build patrol roads, and provide training, as has been the practice for previous use of National Guard troops along the border. A few months later, Congress voted for authorization (but not funding) of 700 miles of physical fencing along the border. Then, in September 2006, under the Secure Border Initiative (SBI), a large technology contract was awarded by DHS for installation of 1,800 high-tech towers designed to feed live video to Border Patrol agents carrying wireless hand-held receivers. (SBI net calls for deploying a mix of fencing, vehicle barriers, sensors, cameras, and other surveillance technology along the U.S. southern and northern borders.) Meanwhile, Congressional debate on the most effective type of infrastructure to secure the U.S.-Mexico border from undocumented crossers continued.

In conclusion, the 2001 strike against the United States was unprecedented and provoked a thorough reexamination of national priorities, including the function of the border with Mexico. Because the attack involved a breach of U.S. sovereignty, it was inevitable that all of U.S. borders would need better surveillance and protection. The southern border with Mexico drew intense scrutiny. Drug trafficking, crime, and fear of terrorist infiltration, combined with growing concerns about undocumented immigration, resulted in making the issue of controlling the border with Mexico a national priority.

Given circumstances that have featured a rapid and massive shift in priorities and allocation of financial resources, it is essential to achieve a reasonable sense of balance. A strong Mexican economy, a healthy environment, and most of all, cross-border trust and cooperation are keys to ensuring the stability and safety of the region. Environmental security (i.e., the assurance of a safe, abundant, protected, and sustainable environment), no less than enforcement-induced impenetrability, is an essential ingredient for national security. A healthy environment on both sides of the border in which human welfare for both U.S. and Mexican citizens is advanced supports border security. Sustainable solutions for security and environmental issues require multi-stakeholder participation, including state and local actors. The trilateral dimension also is critical, where the autonomous tribal nations of the United States and related indigenous culture groups in Mexico are actively included in both development and implementation of effective solutions.

In the remainder of this report, the Board examines strategies for balancing border environmental protection and border security in two arenas: undocumented human crossings in rural areas between ports of entry and hazardous materials crossings at ports of entry and beyond.



Border Patrol agents rely on numerous modes of transportation to carry out their work. (Source: U.S. Customs and Border Protection, photographers Gerald L. Nino and James Tourtellotte, <http://www.dhs.gov>)

Undocumented Human Crossings

To address problems associated with unauthorized flows of people across rural areas of the U.S.-Mexico border and also continue to protect the environmental quality of the region, the Good Neighbor Environmental Board recommends:

Strengthen communication and collaboration between security agencies and environmental protection agencies, including land management agencies, on both sides of the border. Early and ongoing cooperation and participation in the cross-agency dialogue will contribute to effective solutions that serve the core agency missions of homeland security and environmental protection, while also addressing quality of life concerns of border communities.

Strategically employ a mix of technology and personnel to meet the security and environmental needs of different sections of the border region. Vehicle barriers and sensor technology along the boundary that permit habitat connectivity and migration of important species can serve well in rural areas characterized by fragile habitats.



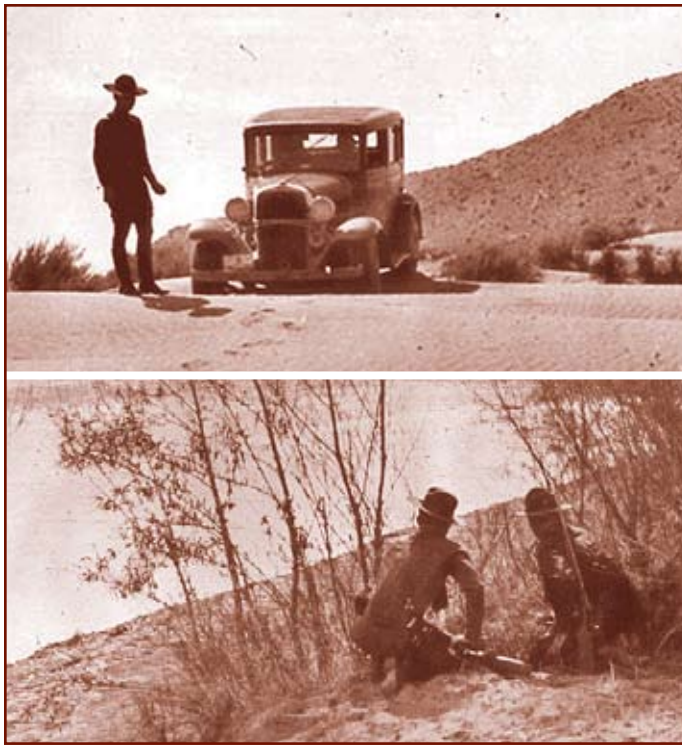
Crossing the U.S.-Mexico border illegally these days often is a case of risking one's life in remote mountain and desert regions of the U.S. border states. These regions are characterized by difficult-to-traverse topography, extremes of temperature, and absence of water. Though many undocumented migrants still cross in urban areas, rapid advancements in inspection technology at the ports of entry, improved infrastructure, and more effective enforcement strategies in cities have redirected the majority of crossers toward more rural settings. Statistics bear out this shift. In fiscal year 1995, the San Diego, California, Border Patrol Sector located 524,231 deportable aliens. That number had dropped to 138,608 in fiscal year 2004. During that same period, the numbers in the more rural Yuma and Tucson Sectors in Arizona rose dramatically, from 20,894 to 98,060 in Yuma and from 227,529 to 491,771 in Tucson. This change in migrant crossing patterns has had a dramatic impact on the border environment.

Several U.S. government initiatives have contributed to this shift. The first, Operation Hold the Line in El Paso, was launched in 1993. Operation Gatekeeper, mentioned previously in this report, in the

San Diego area began in 1994; Operation Safeguard in central Arizona started in 1995; and Operation Rio Grande was initiated in the south Rio Grande Valley of Texas in 1997. These operations included new strategies for deploying agents at the border and installing security infrastructure such as concrete, bollard-type fences; dual and triple wire or steel fences with patrol roads; buried sensors; 24-hour video surveillance; stadium lighting; and infrared night scopes. More recently, the Arizona Border Control Initiative has increased the number of Border Patrol agents stationed in Arizona, expanded the use of checkpoints, and strengthened investigations and enforcement targeting human smuggling operations.

For this section of the report, the Good Neighbor Environmental Board concentrates specifically on undocumented crossings and enforcement in rural areas. It identifies a specific set of challenges for both environmental protection and security officials working in rural areas and suggests both interim and longer term approaches for moving forward.





The Border Patrol has been at work for more than eight decades. (Source: National Border Patrol Museum, El Paso, Texas)

The Border Patrol, housed in U.S. Customs and Border Protection (CBP) within the Department of Homeland Security (DHS), carries the primary responsibility for apprehension of undocumented migrants along both the urbanized and the more remote sections of the U.S.-Mexico border. As an agency, it has been working for more than eight decades along the northern and southern borders of the United States. During the 1920s, new immigration restrictions and Prohibition led to increased concern about undocumented migration and liquor smuggling. In response, Congress passed legislation in 1924 to create the Border Patrol. The new agency quickly expanded to 450 officers. Today's Border Patrol has a workforce of more than 11,000, and the Administration's goal is to boost that total to 18,000 by 2008.

Border Patrol agents rely on a wide range of tools to carry out their work. For instance, surveillance transportation may range from foot and horse patrol to helicopters and fixed-wing unmanned aircraft. Increasingly, agents also make use of a range of technological tools: motion and seismic sensors installed on fences and hidden underground; stationary pole-mounted cameras that are checked when motion sensors are triggered; mobile video sensors, which are trucks with periscope-like cameras and night vi-

sion equipment; night vision goggles worn by Border Patrol agents in towers and during patrols; and ground-penetrating radar equipment to locate tunnels built and used by smugglers and drug dealers. Agents say that the newer technology, as well as access to criminal databases and terrorist watch lists, has helped them do their job better.

Border security activities in rural areas are intensifying dramatically in response to significant increases in numbers of undocumented migrants and smugglers. Given the recently increased presence of National Guard troops, plus the deployment of more advanced technology and improved infrastructure resulting from the Secure Border Initiative (see *Context* section of this report), this trend is not likely to reverse. At the same time, conservation organizations and federal, state, and local land managers are hard at work in these same rural areas trying to preserve natural resources in national wildlife refuges, national forests, and state parks and on private ranches and tribal nation lands.

U.S.-Mexico Border Ecoregions

The U.S.-Mexico border runs through five main ecoregions: California with its Coastal Sage, Chaparral, and oak and pine forests; Sonoran Desert; Madrean Sky Islands Montane Forests; Chihuahuan Desert; and Tamaulipan Thornscrub. Precipitation throughout the borderlands, ranging from 3" to 25" annually, is highest in the mountain regions of southern Arizona/northern Sonora but still is low compared to other parts of the United States. Most of the border is considered arid to semi-arid. Each of the five ecoregions possesses unique qualities. California is known for its fire-adapted shrub communities and extremely rare plants as well as great biodiversity. The Sonoran Desert is famous for its stately saguaros and beautiful palo verde trees, and the Madrean Sky Islands are known for their unusual bird species, such as the elegant trogon and the flame-colored tanager. The highest diversity of lizard species in any one place occurs in the Chihuahuan Desert along the border, and Tamaulipan Thornscrub is home to both ocelot and jaguarundi—two secretive and beautiful cat species.

Mixed Environmental Impacts

The environmental impact of this nexus among undocumented crossers, the security agencies that seek to apprehend them, and the environmental protection agencies that seek to prevent or mitigate damage from both groups is mixed. For example,

during the past several years alone, undocumented migrants and drug smugglers have created hundreds of miles of undocumented roads, abandoned hundreds of vehicles, damaged rare desert springs and wetlands, and left behind thousands of tons of trash on private, state, federal, and tribal lands (mentioned in the *Context* section of this report). As the Board pointed out in its *Ninth Report*, these activities also have destroyed precious cultural and natural resources such as archeological artifacts and sacred Native American sites. Each year, approximately 1 million deportable aliens are located by the U.S. Border Patrol along the U.S.-Mexico border.

From that perspective, rigorous border security can actually prevent, or at least limit, harm to the environment. Effective barriers can decrease the number of undocumented crossings, thereby decreasing likely ecosystem damage. An effective fence or wall project also can reduce the footprint of border enforcement activities, allowing more habitats to remain in a natural state and reducing the need for off-road pursuit. A positive effect of San Diego's Operation Gatekeeper has been the protection of nesting sites of endangered bird species in the sand dunes of the Tijuana River National Estuarine Research Reserve. Another positive example is the return of endangered lesser long-nosed bats to their cave at the Cabeza Prieta National Wildlife Refuge; the bats had been disrupted from their cave by smugglers using it as a staging area but they returned after border fencing was installed and the smugglers abandoned the cave. Commenting on the Arizona Border Control Initiative, which was mentioned earlier in this report, Department of the Interior Deputy Assistant Secretary Larry Parkinson said, "The best thing you can do for the environment is to have control of the border."

Border security activities themselves, however, may cause environmental damage. Environmental organizations such as Defenders of Wildlife, as well as representatives from other nongovernmental groups such as the Center for Biological Diversity and the Society of Conservation Biology, have voiced serious concerns about unintended impacts of fencing and other security activities. As the Board also pointed out in its *Ninth Report*, increased off-road traffic and new Border Patrol roads cause damage to sensitive desert lands and sacred tribal sites. Although this damage may be considered an unfortunate but necessary consequence of safeguarding the

public, much of it could be prevented through more effective strategic planning.

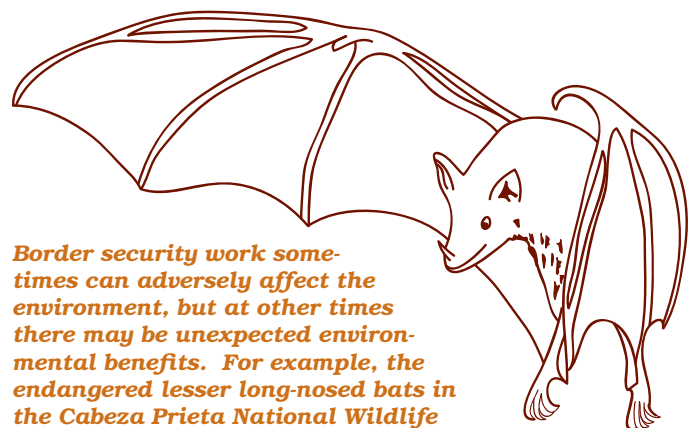


The Board has identified the four most significant challenges faced by environmental protection and border security agencies related to impacts associated with undocumented migrant crossings. In formulating its recommendations for next steps, the Board examined how the various institutions' responsibilities intersect and the sometimes surprising outcomes. Based on this analysis, it formulated approaches for both overcoming the challenges and seizing some of the formerly unidentified opportunities.

Challenges and Next Steps

CHALLENGE 1

Roads and foot trails created by undocumented migrants, migrant smugglers, and drug smugglers and by the interdiction agencies that pursue them cause damage to wildlife and fragile ecosystems. Use of unimproved roads that often are created initially by undocumented migrants as footpaths can destroy desert plants and create tire ruts. These ruts, in turn, erode easily and can dramatically affect the hydrologic cycle. Erosion, dust pollution, and habitat fragmentation are visible results of undocumented crossers and efforts to apprehend them. Although the Border Patrol has a policy of re-



Border security work sometimes can adversely affect the environment, but at other times there may be unexpected environmental benefits. For example, the endangered lesser long-nosed bats in the Cabeza Prieta National Wildlife Refuge were driven from their cave by smugglers using it as a staging area. Later, the bats returned after border fencing was installed and the smugglers vacated the site.

maining on appointed roads and trails except when in immediate pursuit of undocumented crossers, or when involved in rescue operations, significant environmental damage can result from even these limited operations.

Next Steps

When possible, use technology rather than new roads and barriers to achieve security goals. If additional security infrastructure is required, combine permanent vehicle barriers with ground-based radar and other technology, as well as personnel, to effectively halt undocumented crossers as close to the border as possible. Using technology such as ground-based radar, buried sensors, and motion detectors along much of the border, in combination with permanent vehicle barriers, will improve apprehension rates close to the border. Apprehending undocumented immigrants closer to the border reduces the impacts of footpaths and unplanned roads, as well as the broader impacts on these open, rural areas.

DHS should take appropriate steps to identify important or sensitive natural resources along the U.S.-Mexico border and avoid, minimize, or mitigate environmental impacts on such resources whenever possible. As mentioned previously in this report, the Real ID Act of 2005 gives the Secretary of Homeland Security the ability to waive environmental laws such as the National Environmental Policy Act (NEPA) to assure expeditious completion of border road and barrier projects. DHS continues to support selective use of the waiver in addition to maintaining its responsibility to be a good environmental steward. At the same time, some observers believe that exercising this waiver may reduce the amount and quality of public input into the process and may result in projects that are perceived by some stakeholders as not adequately addressing local environmental concerns. These observers maintain that continued compliance with all provisions of NEPA and other relevant legislation will provide an opportunity for formal written comment on DHS proposals and participation in public hearings. Those commenting might include members of the public, land management agencies (such as U.S. Fish and Wildlife Service [USFWS], Bureau of Land Management [BLM], U.S. Forest Service [USFS], National Park Service [NPS], and tribal environmental agencies), environmental organizations, and other stakeholders.

Strengthen communication and outreach to the public to enable greater interaction with appropriate land management agencies and DHS, thus resulting in continued public input on border project development and implementation.

DHS regularly interacts with representatives of USFWS, BLM, USFS, NPS, and other federal, state, and local agencies. The public, however, is not always aware of opportunities for input. Both perceived and actual lack of access to ongoing discussions creates the impression among some stakeholder groups that environmental concerns are ignored. Transparency and public participation are important trends in U.S. and Mexican border governance, and these principles are fully embedded in the operations of the Commission for Environmental Cooperation, the Border Environment Cooperation Commission, the North American Development Bank, and the Border 2012 process. The Board recommends that DHS and land management agencies initiate steps to bolster public participation in their discussions, while still protecting classified information. More involvement with the public fosters more sustainable solutions that will both enhance border security and protect the environment.

Establish an office within a relevant federal agency that is dedicated to analyzing and communicating the impacts of border security on the environment. This office would conduct scientific assessments of the impacts of undocumented migrants and related smuggling and criminal activities on the environment, as well as the impacts of security activities, and take a lead role in federal strategic planning and policy making. Until the areas impacted are assessed, it is difficult for agencies to determine how to protect or rehabilitate areas. As the Border Patrol gets more technology and infrastructure to strengthen its control of the border, agencies will need more expertise in the recovery phase. This development might provide an opportunity for grants or other resources to be provided to affected federal agencies or to nongovernmental organizations that can study cross-jurisdictional problems.

For example, the U.S. Environmental Protection Agency's (EPA) Environmental Technology Council is working to identify the high-priority environmental problems whose solutions likely will depend on the availability of new technology. Given that one of EPA's strategic goals is land preservation and restoration, it would seem appropriate that the Council



Before and After: Undocumented migrants and drug smugglers have left behind thousands of tons of trash along the U.S.-Mexico border. Though much of it remains untouched, projects such as the Bureau of Land Management's Southern Arizona Project are making a difference. Project partners include other federal agencies, counties, cities, the Tohono O'odham Nation, and nonprofit organizations. (Source: U.S. Bureau of Land Management)

designate the U.S.-Mexico border region, and the potential environmental impact of security operations there, as one of its top priorities.

CHALLENGE 2

Trash and other waste left by undocumented migrants and drug smugglers in the process of crossing despoils the landscape and puts people and wildlife at risk for disease. In the process of trying to stay alive while crossing harsh landscapes, undocumented migrants and other crossers outside the law tend to leave behind everything they do not need. At pick-up locations where they obtain transportation to urban areas, crossers usually jettison everything except the clothes they are wearing. The result is trash of all descriptions, including water and food containers, backpacks, extra clothing, and even hypodermic needles. Vehicles abandoned by apprehended migrants and smugglers litter the landscape. Human waste left by the migrants, or even those patrolling the border, also is a problem.

Trash left behind by undocumented migrants remains a particularly vexing problem all along the border—on private, local, state, federal, and tribal lands. Trash removal is a major problem for the Cleveland National Forest in California, the Cabeza Prieta National Wildlife Refuge in Arizona, and the Gray Ranch in New Mexico, among others. The Tohono O'odham Nation, the Cocopah Indian Tribe, the Quechan Indian Tribe, and the Campo Band of the Kumeyaay

Indians are just a few of the tribes affected. In the Tohono O'odham Nation, for example, it has been estimated that up to 1,500 undocumented migrants dump 6 tons of trash on the reservation every day. Although the Nation successfully completed a pilot waste removal project in 2005 (see *Projects and Partnerships* section below), heavy undocumented migration through the area continues and there is no one agency or organization that is clearly responsible for removing the solid waste left behind.

The Good Neighbor Environmental Board learned firsthand about the impacts of undocumented immigration on Tohono O'odham land during a field trip following its October 2005 public meeting near Tucson, Arizona. In the small tribal border community of New Fields, Arizona, tribal elders met with Board members to explain how their daily lives are affected by both undocumented alien crossings and Border Patrol surveillance and enforcement activities.

Next Steps

Provide federal government support to tribes, private landowners, rural communities, state parks and protected areas, and federal land management agencies to address sanitation and solid waste issues associated with undocumented crossings. For sanitation concerns, the Centers for Disease Control and Prevention or state health departments should evaluate the risk of disease from exposure to human waste left by migrants. Appropri-

ate sanitation facilities should be provided for use by personnel patrolling the border, taking into consideration the need for sanitation measures compatible with deployment to remote areas. For solid waste concerns, new partnerships—or at least improved coordination—should be developed for the timely retrieval of undocumented migrant belongings left behind when they are apprehended by Border Patrol personnel. Consideration should be given to using National Guard troops deployed at the border to undertake retrieval of solid waste as part of their efforts to support Border Patrol activities. The Good Neighbor Environmental Board made a similar recommendation for support in its *Ninth Report*.

CHALLENGE 3

Impenetrable fences may present significant negative consequences to wildlife and the environment. Fences may disrupt hydrologic patterns, causing flooding and erosion. Wildlife migration routes and territories for some species may be truncated, fragmenting habitats and causing declines in regional populations of large animals such as deer, black bear, pronghorn antelope, mountain lions, and jaguar, and small animals such as snakes, lizards, turtles, and foxes. Migratory birds, as well as bird and mammal breeding behavior, will be affected by lights associated with fences in some areas. Border lighting projects associated with fencing also have been criticized for potential harm to species such as the jaguarundi and ocelot in the Lower Rio Grande Valley. A fence running along large sections of U.S.-Mexico border, with its accompanying roads, would permanently eliminate hundreds of thousands of acres of transboundary wildlife habitat.

The Border Patrol has pointed out that stepped-up border control measures have decreased undocumented migrant crossings in high-traffic areas such as San Diego, thus reducing damage to sensitive habitat from migrant foot traffic, littering, and pursuit and rescue operations. Although fences can be an effective barrier to unauthorized crossings, they also present unique challenges from an environmental standpoint.

Current proposals call for the construction of many miles of new single, double, and triple fences and related access roads on the border. Although statements from Border Patrol Chief Aguilar and Sec-

retary of Homeland Security Michael Chertoff are reassuring—that border fencing should be appropriate to each location and its particular security needs—the Board recognizes that public participation in the design and placement of the border fence and related infrastructure is essential, both for appropriate design and for local support of the projects.

One of the potentially imperiled species that would be impacted dramatically by a fence is the Sonoran desert pronghorn, a type of antelope that lives on both sides of the Arizona-Mexico border. Another species, the jaguar, recently has been sighted in the U.S. border region again as a result of efforts of organizations such as the nonprofit ranching and grazing group, The Malpai Borderlands Group, to preserve open space. This group shares the concern about the impacts of fencing, saying it would disrupt the jaguar's migration north into the United States and prevent the chance to establish a viable population in the area.

Stephen Mumme, a political science professor at Colorado State University and an expert on environmental issues affecting the border, said the effect of fences on the small arroyos and mountain streams strung across the border could be devastating. “We’re talking about a very fragile part of the North America continent where the percolation of just inches of water is vital for the maintenance of grasses and plants and different types of cacti. It’s essential for their survival,” said Mumme.

Next Steps

As a best business practice, hold a national conference on fencing/barrier technology that highlights successes to date and educates the public, with participation from private sector experts and nongovernmental organizations. As an outcome, develop recommendations for prototype fences that meet security goals while minimizing environmental damage or even improving environmental conditions. Many environmentalists presume that fences are harmful to the environment, whereas law enforcement officials may presume that more environmentally friendly barriers may provide ineffective security. By broadening multi-sector public dialogue about new technologies and alternate designs, it may be possible to develop fences and barriers that effectively meet both objectives—providing effective security and protecting the environment.

Continue to ensure that the U.S. Section of the International Boundary and Water Commission (IBWC) has the opportunity to review proposed border security infrastructure prior to construction to provide advice on ways to minimize negative transboundary impacts, such as erosion or flooding. By treaty, the Commission must ensure that projects along the Rio Grande and Colorado River boundary segments do not cause obstruction or deflection of the flows of these rivers. To minimize problems on the land boundary, the U.S. Section also reviews infrastructure plans to address stormwater issues and ensure that U.S. infrastructure is built entirely in the United States and does not interfere with the Commission's boundary demarcation responsibilities.



Proposed extensive new fencing along the U.S.-Mexico border could affect dramatically the Sonoran desert pronghorn antelope, which lives on both sides of the border. (Source: <http://www.midwestwilderness.com>)

CHALLENGE 4

Lack of collaboration across agencies with responsibility for border security, land management, and environmental protection tends to lessen the likelihood of win-win scenarios for both security and the environment. Although granting exemptions from environmental laws such as NEPA is not a surprising decision when national security is at stake, a better understanding of the environmental impacts of moving forward with particular security measures would better position policy makers to prevent or mitigate potential environmental damage.

In addition, despite efforts to strengthen support for both security work and environmental work, both types of activities continue to face staffing and funding shortages, which results in individual agencies diverting limited resources to urgent border security matters. Border Patrol operations on protected land potentially can conflict with the preservation mission of land management agencies such as the U.S. Department of the Interior's (DOI) USFWS, BLM, and NPS, and the U.S. Department of Agriculture's (USDA) USFS.

Land management agencies continue to lack sufficient resources to carry out their missions, a problem that is being compounded because they increasingly must devote large portions of their human and monetary resources to border security-related work on their lands. The Good Neighbor Environmental Board also identified this concern in its *Ninth Report*, noting that managers suffer from a lack of patrol officers to oversee public lands.

Next Steps

An interagency Task Force comprised of DHS, DOI, and USDA should be established that includes their respective law enforcement components; this Task Force then could develop strategic plans and establish mutual goals regarding law enforcement changes that would affect federal lands, including sensitivity to environmental impacts. This recommendation is an outcome of the General Accounting Office report of June 2004, *Border Security: Agencies Need to Better Coordinate Their Strategies and Operations on Federal Land*. Among the outcomes was a recommendation that federal agencies such as EPA and specific environmental programs such as Border 2012 take a lead role in promoting closer communication with security agencies, including DHS. To reduce any existing mistrust, if possible, they should build from existing successful cross-agency initiatives. (Note that during 2006, steps were taken to add a representative from DHS to the federal agency component of the Good Neighbor Environmental Board.)

In its *Ninth Report*, the Board also described the potential conflicting priorities across land management agencies and border security agencies. Officials concerned with resource preservation and those tasked with providing border security have different missions and responsibilities.

The federal government should identify communications gaps and place liaison personnel in the border states who facilitate communication among security, environmental, and border land management agencies. These liaison staff members should work closely with Border Patrol public liaison officers, especially in areas such as cross-agency conflict resolution. One example would be to enable U.S. and Mexican land management officials, such as those from the NPS, to easily cross the border at remote locations that are far from official ports of entry. This flexibility would enable managers of protected areas, such as the Big Bend National Park, to continue their valuable binational partnership projects for environmental protection on public lands in the United States and Mexico.

Projects and Partnerships

U.S./Mexico Critical Infrastructure Protection (CIP) Framework is a cooperative, bilateral effort to assess and enhance critical cross-border resources and infrastructures. The Bilateral CIP Steering Committee, co-chaired by DHS, representing the Government of the United States, and the Secretariat of Governance, representing the Government of Mexico, guides the U.S.-Mexico CIP efforts. The CIP includes working groups for Energy, Transportation, Telecommunications, Water/Dams, and Public Health/Agriculture. The Water/Dams Working Group, led by the U.S. Section of the IBWC and Mexico's Secretariat of Foreign Relations, identified critical infrastructure and resources with transborder implications, such as the Falcon and Amistad International Dams along the Rio Grande and potable water supplies and sanitation systems. The working group developed a program to implement measures to reduce vulnerabilities in priority order. The U.S. Section of the IBWC already has implemented some of the recommendations using existing agency funds, and will implement other priority recommendations as additional funding becomes available.

USDA Douglas-Agua Prieta stormwater partnership, involving the Border Patrol and numerous other agencies, was created to reduce erosion and flooding. A major focus is to control stormwater runoff, which contributes significantly to frequent flooding in Agua Prieta, Mexico. This binational watershed poses a particular challenge for stormwater manage-



Installation of security fencing without regard for environmental factors such as stormwater runoff may produce accelerated erosion and resulting instability. (Source: International Boundary and Water Commission)

ment because of its steep slopes, little herbaceous ground cover to slow down stormwater flows, and soils that do not absorb or hold moisture. Numerous agencies on both sides of the border participated in a binational workgroup that developed solutions to slow down stormwater runoff and improve watershed health through rangeland management and vegetation treatment. The Border Patrol supported the effort by working to reduce erosion along international boundary fences.

Memorandum of Understanding (MOU) to facilitate security and minimize environmental damage on federal borderlands is a multi-agency agreement that ensures CBP access to public lands, including the right to install tactical infrastructure and allowing all necessary actions to protect officer safety and respond to emergencies. At the same time, it encourages protection of natural, cultural, and wilderness resources through cooperation between CBP and federal land managers. For example, the MOU calls for parties to work together to identify methods, routes, and locations for Border Patrol operations that minimize impacts. CBP will request access to federal lands not previously designated for off-road use. Moreover, any off-road use in these areas should minimize impacts on threatened or endangered species and the resources and values of the federal lands. Other MOU provisions include environmental and cultural awareness training for Border Patrol agents and the development of maps that identify specific wildlife and environmentally or culturally sensitive areas.

Colorado River invasive salt cedar removal project is a multi-agency effort that addresses concerns about invasive species, with the added benefit of increasing visibility for border security work. During 2006, the Borderlands Management Task Force (BMTF) in Yuma, Arizona, undertook the Colorado River corridor salt cedar treatment and removal project, which includes local, state, federal, and tribal agencies: DHS Border Patrol, U.S. Army Corps of Engineers, BLM, Bureau of Reclamation, the Cocopah Nation, USFWS, the Yuma Proving Grounds, Arizona Game and Fish, and Yuma County Sheriff's Office. The short-term goal is to thin or remove salt cedar vegetation in a few select locations so that law enforcement officers and emergency personnel can work along the border. In the long-term, the multi-agency plan is to deal with 24 miles of dense vegetation. The work will consist of removing and thinning the salt cedar and also restoring cottonwood-mesquite-willow, which is native vegetation. This project is being carried out under BMTF's mission to facilitate an intergovernmental forum for cooperative problem solving on common issues related to the Arizona-Mexico border.

BLM's Southern Arizona Project, in partnership with federal agencies, tribes, and others, is cleaning up waste from undocumented border crossers. Since 2003, the Southern Arizona Project has provided \$3.4 million to clean up waste left by undocumented migrants and smugglers. The project partners also have rehabilitated roads and trails, protected sensitive riparian and threatened and endangered plant areas, placed barriers and barricades to prevent further dumping, and restored or protected native areas and watersheds from further degradation.

Examples of such work can be seen in projects conducted by the Cocopah Indian Tribe and the Tohono O'odham Nation. The Cocopah Tribe is working on a 60-acre restoration project, funded by the State of Arizona, with the goal of restoring the river watershed and removing invasive species, like salt cedar, that, in turn, will assist enforcement officers and emergency personnel who work along the border. The Tohono O'odham Nation, with funding from BLM and EPA, has identified 84 dump sites, conducted

134 cleanups, collected more than 62 tons of waste and 1,260 bicycles, and identified recycling markets for the waste with the ultimate goal of program sustainability.

Two similar projects are scheduled for implementation. In the first, the Tohono O'odham Nation will expand efforts for abandoned vehicle removal and recycling; its Abandoned Vehicle Removal Project will inventory (via GPS) and remove 220 vehicles, which will be implemented by the Nation's Solid Waste Management Program. The project also will include the Border Patrol Aerial surveying team and the Tohono O'odham Police Department Rangers Program.

The second is an innovative project launched by the Arizona Department of Environmental Quality (ADEQ) to conduct cleanups on tribal lands in each of the four border counties, while developing partnerships among entities that can collaborate for cleanups in a long-term sustainable manner. Funded by an EPA Border 2012 grant, ADEQ will explore establishment of a public/private stakeholder organization to inventory resources and develop a sustainable cleanup strategy for Arizona's border region. This project is being integrated with the Tohono O'odham Nation's project for removal of abandoned vehicles and solid waste.

Ewiaapaayp Tribe agreement with the Border Patrol allows the Border Patrol access to the reservation. The Border Patrol has keys for the single locked access gate leading into and out of the reservation.

Tohono O'odham Nation partnership with DHS has permitted the construction of two Law Enforcement Centers (LEC) on Tohono O'odham Nation lands. The LEC facilities house DHS, CBP, the Tohono O'odham Nation Police Department, and, most recently, National Guard personnel. The facilities are located in the Chukut Kuk District of the Tohono O'odham Nation and have been operational since September 2004. Each facility has office space, sleeping quarters for Border Patrol Agents, a processing center, and temporary holding cells for apprehension of undocumented migrants. The facilities process up to 300 undocumented migrants a day.



The San Luis, Arizona, port of entry, located near the California border, receives a significant number of hazardous waste shipments. (Source: U.S. Customs and Border Protection)

Hazardous Materials Crossings

To provide safety and security at ports of entry and beyond, as well as environmental protection from risks associated with the transborder flow of hazardous materials, the Board recommends:

At ports of entry, increase the number of hazmat inspectors and establish specific sites and hours for hazmat vehicles. Duplicate successful approaches, including use of appropriate technology. Increase cooperation between environmental agencies and security agencies through approaches that reflect site-specific language and staffing requirements.

Beyond ports of entry, resolve liability issues for cross-border emergency responders and provide targeted support that reflects the needs of border communities within the larger national strategic plan. Document and share best emergency response practices. In addition, increase dialogue with tribal entities about hazardous materials transported near and through tribal lands, and increase tribal participation in training exercises.



One theme that emerges from the *Undocumented Human Crossings* section of this report is that border security agencies and environmental protection agencies have different core missions when it comes to preventing undocumented migrant crossings (border security) and protecting fragile ecosystems (environmental protection).

By contrast, in this section—*Hazardous Materials Crossings*—border security work and environmental protection efforts often appear to dovetail. Proper handling of hazardous materials being transported in commercial vehicles near and at official ports of entry is mission-relevant to both types of agencies. Although border security officials are focused on accurate materials identification and the potential terrorist threat should the materials get into the wrong hands, they share with environmental officials the concern about potential risk to human health and the environment through accidental releases or explosions.

Hazardous materials are an essential element of modern industrialized society. Chemicals of all types are used in the manufacturing of goods ranging from cell phones and computers to cars and clothes. Many



Increasing sophisticated technology is being applied to scan incoming cargo for unauthorized contents. Shown are: (1) a truck passing through a gamma ray scanner at Otay Mesa port of entry in San Diego (Source: Paul Ganster, San Diego State University); and (2) a radio-graphic image showing stolen vehicles that has been installed in a port of entry office (Source: SAIC).

of these chemicals, and some of the goods produced from their use, are classified as hazardous materials, a term used for substances ranging from the most dangerous and lethal chemical compounds to rela-

tively benign products such as paint. To protect the public and the environment, the federal government administers an extensive set of laws and regulations to ensure safe handling of hazardous materials, including delegation to state agencies to enforce compliance. (See the Board's *Fifth Report*, which examines hazardous materials more generically. In this *Tenth Report*, by contrast, the specific focus is on hazardous materials crossings in light of border security.)

Hazardous Materials and Hazardous Waste Definitions

HAZARDOUS MATERIALS are materials designated by the Secretary of the U.S. Department of Transportation (DOT) as posing an unreasonable threat to the public and the environment, whose transportation is regulated by DOT. These include explosives, gases, flammable solids, flammable liquids, oxidizing substances and organic peroxides, poisonous (toxic) and infectious substances, radioactive materials, corrosives, and miscellaneous dangerous goods; among the latter are hazardous wastes (Title 49 of the Code of Federal Regulations [49 CFR 172.101]).

HAZARDOUS WASTES are wastes—either byproducts of manufacturing processes or simply discarded commercial products such as cleaning fluids or pesticides—that are potentially damaging to the environment and harmful to humans and other living organisms. They exhibit hazardous characteristics (ignitability, corrosiveness, reactivity, or toxicity) or are in one of four U.S. Environmental Protection Agency (EPA) lists (F, K, U, or P) (see *40 CFR Part 261 Subpart C*). Hazardous wastes sometimes are produced by the release of a hazardous material, making them regulated at that time by EPA or a delegated EPA authority.

Pipelines account for the movement of enormous quantities of hazardous materials across the U.S.-Mexico border and include natural gas, petroleum, and petroleum products. The total amount of transborder natural gas transmission is expected to increase significantly in future years, with the completion of new projects in the Tamaulipas region and a large liquified natural gas degasification facility near Ensenada, Baja California. As mentioned in the *Introduction* section, however, pipeline transmission of hazardous materials falls outside the scope of this report.

The U.S.-Mexico border region, as elsewhere throughout the nation, must deal with the appropriate management of hazardous materials on a daily basis. Several special factors, however, come into play along the border:

- ◆ The use of hazardous materials by manufacturing plants (*maquiladoras*) on the Mexican side of the border. Many of these plants import hazardous materials from the United States for use in their production processes. To ensure proper disposal after use, the Unit-

ed States agreed to accept hazardous waste from *maquilas* under Annex III of the 1983 La Paz Agreement.

- ◆ Prior to shipment to Mexican plants, warehouses in border cities and further inland store large amounts of hazardous materials, which sometimes are abandoned, with potential leakage or releases that may endanger public health and safety.
- ◆ Hazardous materials incidents on one side of the border can endanger the environment and public health on the other side. Thus, it is in the best interest of the two nations, working with appropriate tribal governments, to cooperate in responding to such emergencies. Emergency personnel and equipment generally must pass through border crossings to reach incident sites, requiring governments to have elaborate agreements and protocols in place so that emergency responders can move without delay.

Institutional Responsibility

On the U.S. side of the border, responsibility for managing hazardous materials and hazardous wastes is shared by multiple government agencies at varying levels. DOT regulates the safe and secure transportation of hazardous materials and wastes in interstate, intrastate, and foreign commerce. DOT administers regulations specifying appropriate packaging and handling requirements for hazardous materials and requires shippers to communicate the material's hazards through use of shipping papers, package marking and labeling, vehicle placards, and material-specific emergency response information. DOT also regulates training requirements for persons who prepare hazardous materials for shipment or who transport hazardous materials in commerce (<http://www.dot.gov>). Hazardous material shipments originating in Mexico and transported across the border into the United States must conform to all applicable DOT regulatory requirements.

EPA has the federal lead for hazardous waste management, with other federal, state, and local agencies playing critical roles. Mexican hazardous waste generators that send their waste to the United States for treatment and disposal must comply with EPA manifest regulations as well as with relevant state regulations.

In addition, within the Department of Homeland Security (DHS), U.S. Customs and Border Protection (CBP) enforces compliance with U.S. trade regulations (<http://www.cbp.gov>). At the state level, various agencies have delegated authority from EPA to manage transboundary movement of hazardous waste when waste is being transported through, or being sent to, their state for final treatment or disposal. In some U.S. border communities, local governmental agencies also have a direct role, as with San Diego County, which inspects trucks at ports of entry.

On the Mexican side of the border, the federal Secretariat of Environment and Natural Resources (*Secretaría del Medio Ambiente y Recursos Naturales*, SEMARNAT) has primary oversight for managing hazardous materials and, like EPA, is supported by a number of federal and state agencies with specific roles; for example, Protección Civil is responsible for emergency response, including hazardous materials.

Border Crossings

Each year, millions of commercial vehicles and trains enter the United States from Mexico transporting materials of all descriptions, including hazardous materials. According to EPA commodity flow studies, petroleum, petroleum products, and natural gas account for most of these hazardous materials. A subset of these hazardous materials is hazardous waste. The Border Compliance Assistance Center estimates that 43.3 million pounds of hazardous waste are imported into the United States from Mexico each year.

Although the percentage of hazardous waste imported is relatively small, concerns remain about ensuring its proper disposal and the ramifications of not doing so. Unfortunately, HAZTRAKS, a database developed by EPA to track hazardous waste entering the United States, is no longer available; therefore, comprehensive, up-to-date statistics are not easily accessible. Specific statistics, however, provide insight: for a recent 12-month period, approximately 11,900 tons—about 70 percent of all hazardous waste entering the United States from Mexico—came through the Otay Mesa port of entry, ultimately going to 12 states for final disposal, including Minnesota, Pennsylvania, and South Carolina. Other data show that in 2005, of the hazardous waste imported to Texas facilities from Mexico, more than 50 percent,

or 5,700 tons, was refinery waste. Much of the rest was hazardous because it was flammable or contained heavy metals or spent solvents.

As the Board pointed out in its *Ninth Report*, there are approximately 50 U.S.-Mexico border crossings. Fewer than 15 of these crossings accept trucks and trains carrying hazardous materials. Significant differences exist among these ports of entry, which range from the small facility at Naco, Arizona, with limited hazardous materials crossing, to the mega-ports at Otay Mesa, California, and Laredo, Texas.

Most, but not all, ports of entry are full service in the sense that they process both commercial and private vehicles as well as pedestrians. At several highly urban centers such as San Diego, Laredo, and Brownsville, crossings are managed as systems, and commercial traffic is routed to a single port of entry where U.S. inspection agencies can concentrate their efforts and resources. This approach also diverts trucks carrying hazardous materials or hazardous waste from highly populated areas.

Rail transportation also plays a major role in hazardous materials border transport. In some locations, trains have their own crossings; in many others, the rail line is co-located with a larger port. Once rail cars with hazardous materials cross the border, they often pass through urban areas. For example, in Nogales, Arizona, a large number of sulfuric acid tanker cars destined for mining operations move through the heart of the city almost daily.

U.S. tribes and small communities have expressed concern about hazardous materials passing through their lands and communities. Often, the content of the trucks/rail cars is not known to local authorities, and these areas often lack adequate emergency response capabilities, training, and equipment.

U.S. Entry System for Commercial Vehicles

Pre-entry Paperwork. As noted previously, CBP is the federal agency that first interacts with commercial vehicles entering the United States. At all ports of entry, shippers must prefile their documentation with CBP 24-72 hours prior to their cargo arriving at the border, depending on the system in place at each port of entry. Documents must include a Customs manifest and an EPA Uniform Hazardous Waste Manifest. Prefiling procedures allow CBP to review documents, commodity analysis, and arrival/information scheduling. Shipments arriving without

required prefiled packets are refused entry and returned to Mexico. As mentioned earlier, all vehicles or rail cars entering the United States from Mexico with hazardous materials must comply with appropriate DOT rules and regulations.

Primary Inspection. Because the sheer volume of commerce makes it impossible for CBP to conduct a thorough physical inspection of each truck, rail car, and container entering the United States, it performs a primary inspection on all cargo, during which it reviews documentation and decides whether the shipment should be referred to secondary inspection.

Secondary Inspection. CBP has developed procedures and technologies to assist in facilitating legitimate trade, identifying low-risk shipments, and focusing inspection activities on trucks and containers that could pose a higher threat to the United States. Nonintrusive inspection procedures using X-rays or gamma rays can quickly reveal the contents of a truck or rail car, allowing CBP officials to search vehicles/containers without danger to themselves or the environment. If necessary, CBP can refer a truck or rail car for additional inspection to other local or state agencies with special hazardous materials expertise. Additional federal agencies can inspect the vehicle as well, such as the U.S. Department of Agriculture or the Drug Enforcement Administration. Vehicles exit secondary inspection after a final document review and release by a CBP officer.

Border crossings that receive trucks and rail cars with hazardous materials are equipped with special facilities to deal with leaks and spills; these vary, depending on the port of entry. In many cases, a major release of a dangerous chemical would oblige CBP officers to obtain assistance from other entities with specialized training and equipment, such as local fire departments or state environmental agencies.

Federal and State Safety Inspection. Depending on the state and port of entry, there may be additional safety inspection of trucks, either at the port of entry, facilities adjacent to the port of entry, or at some distance from the border crossing. Federal inspectors are from DOT's Federal Motor Carrier Safety Administration; state inspectors are from delegated state agencies. The Federal Railroad Administration conducts safety inspections of rail cars.

Mexican Transporters. Mexican carriers authorized by DOT usually deliver hazardous material cargo to a U.S. warehouse in the border zone, where cargo is transferred to a U.S. carrier. As of August

10, 2006, Mexican hazmat drivers must be enrolled in the Free and Secure Trade (FAST) program and precleared with background checks to engage in transport into the United States. The FAST program expedites border processing of low-risk participants and enables CBP to focus on high or unknown risk commerce.

Differences Among U.S. Border State Entry Systems

The four U.S. border states—California, Arizona, New Mexico, and Texas—have differing procedures at their ports of entry. Some brief descriptions follow.

California has enacted such stringent environmental regulations at ports of entry that some shippers reportedly divert their trucks importing hazardous materials to the San Luis, Arizona, border crossing. Only California has local and state inspectors working alongside federal Customs inspectors at ports of entry; in Arizona, New Mexico, and Texas, CBP hazardous materials inspectors work independently, although they can call upon state agencies for support. Three of California's border crossings process hazardous materials and use local and/or state inspectors: Otay Mesa in San Diego County, Calexico East in Imperial County, and Tecate. Otay Mesa and Calexico allow import/export of hazardous materials, whereas Tecate is export only. The Otay Mesa port of entry schedules hazardous waste/materials imports from Mexico 3 days a week.

Export of hazardous materials occurs at Otay Mesa and Tecate ports of entry, with no set schedule either by CBP or its counterpart, Aduana México. San Diego County Hazardous Materials Division (HMD) performs random truck inspections to identify illegal export of hazardous wastes to Mexico. In San Diego County, a hazardous materials/waste incident on the U.S. side of the port of entry results in CBP notifying the local fire department or San Diego County HMD, with the County Hazardous Incident Response Team notified via normal dispatch procedures.

In Arizona, hazardous materials may pass through all border crossings with no restrictions on hours of operation. CBP calls on local or state emergency responders, as needed. Inspectors may isolate a truck if a problem is detected during inspection, such as a dangerous chemical leak.

The large commercial facility at Nogales/Mariposa has the most extensive containment area;

facilities at other ports are more modest. The San Luis port of entry, located near the California border, receives the most significant number of hazardous waste shipments with many of the loads originating in Baja California. As mentioned previously, reports indicate that shippers opt to pass through this Arizona port to avoid the strict inspections at the California ports.

Environmental agencies have a limited presence at Arizona ports of entry: they perform periodic spot checks but do not have the resources to cover all of the ports all of the time. With no restriction on hours for hazardous materials, an environmental inspector can spend all day at a port and inspect only a few trucks. The Arizona Department of Environmental Quality (ADEQ) would like to increase resources to cover the border more fully, and EPA has provided some assistance. Although ADEQ continues to seek additional support for border inspections of hazardous waste shipments, available EPA resources will be redirected to strengthen the current ADEQ presence at the Mexican ports of entry. ADEQ and EPA are continuing to work with CBP officials at the San Luis and Nogales ports of entry to explore the possibility of restricting hours of operations for trucks with hazardous materials, as is done in California. Such restrictive hours would significantly enhance the effectiveness of the limited resources available for environmental inspections on the Arizona-Mexico border.

In Texas, procedures are similar to those in Arizona, but Texas investigators/emergency responders are utilized by CBP on an as-needed basis and do not typically perform joint inspections with CBP at the port of entry.

Beyond Border Crossings

Tracking and Enforcement

Tracking hazardous materials from origin to final destination and eventual disposal is a multi-agency effort. EPA is the U.S. agency with primary responsibility for this process. EPA works closely with CBP on tracking imports from Mexico (the U.S. Bureau of Census is responsible for exports). For example, EPA Region 6 has collaborated with CBP and local, county, and state partners to conduct commodity

flow surveys that provide a snapshot of the types of hazardous materials that cross the border at a given port of entry.

One tracking mechanism available to federal agencies with responsibilities in this area is via the domestic requirement for submissions of hazardous waste manifests. Waste exports are monitored through the paper system of the Uniform Hazardous Waste Manifest, which became effective September 5, 2006. EPA's export notice and consent regulations and procedures also provide information (waste transported for recycling is exempted). Another source of tracking information is provided by DOT's Bureau of Transportation Statistics, which maintains databases on traffic flow of people and goods across national borders. (As mentioned earlier, hazardous waste imports formerly were tracked through EPA's HAZTRAKS database, but the database was discontinued in 2003.) Enforcement of hazardous waste shipments is the responsibility of EPA which, in turn, delegates roles to U.S. states and local agencies.

In Mexico, the Hazardous Waste Regulation requires cradle-to-grave documentation and disposal, just as the Resource Conservation and Recovery Act does in the United States. SEMARNAT uses a system developed by the Mexican National Ecological Institute (Instituto Nacional de Ecología) called SIRREP (Sistema de Rastreo de Residuos Peligrosos) to monitor hazardous waste exports to the United States.

Because no system currently exists to provide real-time tracking for hazardous materials in the binational border zone, U.S. and Mexican authorities are unaware of hazardous materials in trailers or warehouses 50 yards on the other side of the border; therefore, regulators and first responders of both nations often are forced to deal with border zone incidents with incomplete information. Radio Frequency Identification (RFID) is one example of a promising technology to help address this information gap (see *Projects and Partnerships* section below).

Risk and Emergencies

At any time of day, border communities through which hazardous materials are transported may be at risk. An accidental or deliberate release of a hazardous material, such as ammonia gas from a commercial tanker, sulfuric acid from a derailed train car, or a butane tanker truck fire or explosion, can pose great dangers to border residents. A hazardous

materials incident can begin at the point of manufacture, during transportation, or at ports of entry. The two incidents described below highlight the need for cross-border emergency preparedness.

In the first incident, a U.S. citizen crossing from Mexico at the San Ysidro port of entry was taken into the secondary CBP inspection compound, transporting 20 bags of mortar for tile work. One of the bags, which actually contained red phosphorus, was opened and a sample taken that then ignited and caught the rest of the load on fire. This fire closed the port of entry for 2 days, and several CBP employees exhibited respiratory distress symptoms from the acid fumes. The incident required response actions from both the San Diego County and City emergency response teams.

In the second incident, a butane tanker truck/train collision near Matamoros, Mexico, caused an explosion, resulting in 6 deaths and 30 injuries and affecting at least 35 businesses and homes. Mexican authorities as well as the Fire Departments of both Brownsville and Harlingen, Texas, responded to the incident.



Cross-border emergency preparedness dates from Annex II of the La Paz Agreement, which established the binational Joint Response Team (JRT, or Team) and the development of the U.S.-Mexico Joint Contingency Plan for Preparedness for and Response to Environmental Emergencies in the Inland Border Area (JCP). JRT is co-chaired by EPA and SEMARNAT; the latter through its Federal Attorney General for Environmental Protection (Procuraduría Federal de Protección al Ambiente, PROFEPA), and its General Coordinator of Civil Protection of the Interior Ministry (Secretaría de Gobernación, SEGOB). The Team includes federal, state, and local representatives of both countries and U.S. tribal representatives responsible for emergency prevention, preparedness, and response in the border area.

The JCP was created to establish cooperative measures for the Team, including emergency response planning, exercises, and training, for preparing and responding to oil and hazardous substance incidents along the border. It has provided the basis for 14 Sister City Binational Emergency Response Plans developed over the last few years. During 2006, the Plan was revised through the Border 2012 Emergency Preparedness and Response Border-Wide

Workgroup (BWWG) to incorporate: (1) “all hazards,” such as radiological, biological, and nuclear explosions; (2) recent changes made to the National Response Plan; and (3) additional stakeholders, such as DHS and border tribal nations.

One example of the binational collaboration that has resulted from the initiative is the Del Rio, Texas/Ciudad Acuña, Coahuila, Binational Hazardous Material Mutual Aid Agreement. The Agreement calls for the two sister cities (pairs of U.S. and Mexican cities located across the U.S.-Mexico border from one another) to determine their areas of common concern, assess collective resources, and conduct a binational exercise every 2 years. Moreover, in the event of an emergency release, the Agreement sets forth binational notification and response procedures, including how to request assistance from the States of Texas and Coahuila. In addition, if required, the JCP can be activated, with assistance provided by EPA and/or PROFEPA and SEGOB.

DOT also plays a role in cross-border emergency preparedness. Every 4 years, DOT’s Pipeline and Hazardous Materials Safety Administration (PHMSA) and its Canadian and Mexican partners update their Emergency Response Guidebook for first responders. The Guidebook prescribes initial actions to be taken in the critical first minutes after an incident to protect the public and mitigate potential consequences. It is published in several languages, including Spanish, French, and English.

PHMSA also operates a planning and training grants program to assist local responders at hazardous materials incidents. The Emergency Prepared-



Emergency response planning, exercises, and training for responders on both sides of the U.S.-Mexico border will enable border communities to be better prepared. (Source: San Diego County Department of Environmental Health)

ness Grants program provides assistance to states, territories, and Indian tribes and, through them, to local communities. Some of the grants have been awarded to agencies in the border region, as well as to border tribes including the Campo Band of Mission Indians and the Cocopah Indian Tribe. Since 2001, an annual grant of \$160,000 has been awarded to Arizona's Inter Tribal Council, and the State of Arizona received \$183,238.

U.S.-Mexico Border 2012 Program

The U.S.-Mexico Border 2012 Program, mentioned earlier in this report, is a 10-year, binational environmental program for the U.S.-Mexico border region (<http://www.epa.gov/usmexicoborder/>). It is the latest planning effort to be implemented under the La Paz Agreement and succeeds Border XXI, a 5-year program that ended in 2000.

Goal 5 of Border 2012 is to: Reduce Exposure to Chemicals as a Result of Accidental Chemical Releases and/or Acts of Terrorism. The Border 2012 Emergency Preparedness and Response BWWG was created to coordinate discussions and implement this goal. The Workgroup is co-chaired by EPA's Office of Emergency Management and Mexico's PRO-FEPA, and its partners include other U.S. and Mexican federal, state, and local agencies, as well as U.S. border tribes responsible for emergency prevention, preparedness, and response in the border area. The BWWG essentially functions as the JRT steering committee (see *Risk and Emergencies* section above).

Two of the three Goal 5 objectives to protect the public have been achieved. First, a chemical emergency advisory/notification mechanism between Mexico and the United States has been established. Second, joint contingency plans for 14 pairs of sister cities are in place and operating, with the establishment of binational committees for chemical emergency prevention. Sister city joint contingency plans now are being supplemented with preparedness and prevention-related efforts, such as consequence analysis, risk reduction, and counter-terrorism.

The Workgroup also has revised the all-hazards emergency notification system between Mexico and the United States and updated contact information through the sister city plans. The new notification system is in place and has been tested. It currently is included in the JCP, and the goal is to eventually incorporate it into all sister city plans.

Another example of binational emergency preparedness cooperation under Border 2012 is its Arizona/Sonora Task Force, chaired by Sonora Civil Protection and the Arizona Department of Homeland Security. Made up of representatives from fire, police, health, emergency managers, environmental agencies, and customs from the United States and Mexico, the group developed the region's four sister city plans, conducted training in exercise design and first-responder awareness, and executed a full-scale binational simulation exercise. A priority for the Arizona/Sonora Task Force is to increase collaboration with other border stakeholders, particularly the Tohono O'odham Nation and the Arizona/Mexico Commission.

In addition to the statewide group, a local planning committee for Nogales, Arizona, and Nogales, Sonora, was established in late 2005 and is co-chaired by the Mexican and U.S. Consuls. The committee updated its joint contingency plan, signed April 25, 2006, at Lane 7 of the Nogales border crossing by the mayors of both cities as well as Arizona and Sonora state officials. The plan includes all-hazards response, updated notification procedures, and a commitment to cross-border response.

Tribal Preparedness

A number of Native American tribes have reservations adjacent to or near the Mexican border, and in some cases, tribal lands lie on both sides of the international boundary. Tribes, as with other communities, plan for emergencies. They often do so, however, while also contending with funding barriers and a lack of information about hazardous materials traveling through or along tribal boundaries. This lack of resources and information can compromise their ability to be adequately prepared.

Some border tribes have security and technical personnel who work closely with federal, state, and local authorities. In California, for example, some of the tribes in San Diego County, such as Pala, Campo, La Posta, Cuyapaipe, and Manzanita, are part of a Joint Powers Authority which, in turn, uses the San Diego Department of Environmental Health and San Diego Fire Department's Hazardous Incident Response Team to assist with hazardous materials incidents on their lands. Several border tribes in California have created fire departments to respond to emergencies, and many are part of local Commu-

nity Emergency Response Teams and/or have their own Tribal Emergency Response Teams. Tribes also participate in trainings covering the National Incident Management System and Crisis and Risk Assessments, and several tribes have approved pre-disaster migration plans in place.

Representatives of border tribes also participate in preparedness activities as members of three Border 2012 Binational Emergency Preparedness Task Forces. These task forces are coordinated by the EPA Region 9 office, which covers Arizona and California. As an example, an emergency preparedness exercise was conducted during the week of September 18, 2006. EPA coordinated the exercise at the request of the Mexican government on behalf PROFEPA and the Kickapoo Traditional Tribe of Texas. The scenario involved a tank car of fuming sulfuric acid and a passenger vehicle containing dangerous materials being transported from Mexico that would spill and potentially affect all three nations.

Challenges and Next Steps

Although both environmental and security officials are focused on the safe transportation of hazardous materials at ports of entry and beyond and plan for emergency response in the event of a release, they do not always have the opportunity to leverage their efforts. In addition, groups such as tribes and surrounding communities may not be included fully in strategic planning, communications, or resource allocation decisions. Analysis of these and other issues follows, along with recommended actions.

CHALLENGE 1

Ports of entry lack staff to inspect all shipments of hazardous materials, including hazardous waste, and some local emergency responders have inadequate training. Environmental agencies also lack hazmat tracking data as well as more general chemical storage data. Although CBP prescreens shipments before leaving 32 foreign ports, it does not do so at land ports in Mexico. Only a few CBP inspectors at any port are trained as hazmat inspectors. In the event of a release or a problem with a load (an unidentified material found in a shipment, for example), CBP relies on state or local responders. In addition, despite JCP

efforts to conduct exercises with sister cities, local Mexican emergency responders (Protección Civil) often are not adequately trained to respond and are poorly equipped. Many emergency response exercises do not actually involve a response to an event in Mexico, instead simulating a spill or release on the U.S. side; a customary practice is to call U.S. emergency responders for assistance if there is an actual chemical spill or release. Finally, information about the amount and type of hazardous materials, including radiological and pathological, transported through or near the border at any given time is limited and consequently compounds emergency response and transboundary enforcement of hazardous materials regulations. Other than the paper manifest system, there has not been a transboundary system for tracking hazardous waste since support for the HAZTRAKS database ceased.

Next Steps

Increase the number of hazmat inspectors at ports of entry. Inspectors could come from any federal, state, tribal, or local agency. Inspectors are needed who can inspect hazardous waste and materials at every border port that accepts hazardous materials during designated hours.

DHS should provide additional support for Mexican counterparts, especially Protección Civil and local Mexican fire departments. In addition, the U.S. federal government should consider funding positions for local/state officials at U.S. border ports of entry for inspections and emergency response. It also should support local U.S. efforts to train Mexican first responders and provide needed emergency response equipment. Funding also should be made available for frequent joint training exercises on both sides of the border.

Establish specific ports of entry sites/hours for hazmat vehicle use. The designated ports of entry would have trained personnel and current hazmat technology to screen vehicles and conduct inspections. U.S. inspectors could certify the load and seal the cargo and would have the option of opening seals and confirming hazmat documentation.

Best practices, such as San Diego County's hazmat inspection program or the City of Laredo's warehouse ordinance, need to be shared with other communities. These programs likely will need to be financed through some kind of local fee for



Ports of entry linking Mexico and the United States began as modest crossings. Shown is the San Ysidro, California, port of entry in the 1930s. Currently, the same crossing consists of 24 lanes and is estimated to provide a crossing point for 17.4 million passenger vehicles into the United States each year—see the Board's Ninth Report. (Source: El Paso Border Patrol Museum)

implementation in other communities. Information from state and local programs needs to be shared.

New Electronic Manifest. EPA is proposing that an electronic manifest (e-Manifest) system be put into place in the next 3 or 4 years. Once implemented, hazardous waste shipment data will be transmitted electronically and instantly. The goal is for this electronic manifest to be compatible with any similar system in Mexico.

Radio Frequency Identification (RFID). To complement e-Manifest, which does not track hazardous waste beyond the border, EPA currently is piloting the RFID system to track hazardous waste shipments from their point of origin to the receiving facility (cradle to grave) and is proposing implementation of this technology in collaboration with Mexico if field testing is successful (see *Projects and Partnerships* section below).

Automated Commercial Environment (ACE) system and International Trade Data System (ITDS). Accelerate EPA's involvement in U.S. Customs' ACE system and the multi-agency ITDS (see *Projects and Partnerships* section below).

CHALLENGE 2

Emergency responders are not able to easily cross the border to respond to incidents because of insurance, liability, national sovereignty, and command issues, and customs and border procedures may delay response. When an incident occurs in Mexico near the border and U.S. and tribal emergency response is requested, emergency responders from the United States and U.S. tribes often find it difficult to provide assistance because of insurance/liability concerns. Mexican federal officials can be reluctant to sanction the assistance, and incident command issues can hinder adequate responses. In addition, CBP often is concerned about allowing response equipment and personnel back into the United States after an incident has occurred. In a similar fashion, it can be difficult for Mexican emergency responders to enter the United States, although the Border Fire Council (see *Projects and Partnerships* section below) has developed procedures to allow Mexican fire fighters to respond. At the February 2006 U.S.-Mexico Inland JRT Meeting in San Diego, California, participants identified customs and border procedures as potential obstacles that may delay response times during an actual emergency, which could result in further damage to the environment, public health, property, or welfare. The Tohono O'odham Nation participated in this meeting, where it was agreed to work on conducting an emergency response event on the Nation's lands.

Next Steps

Resolve liability issues for cross-border emergency responders. Problems with liability insurance may need to be addressed by state legislatures in the United States; these issues should be identified, and legislation should be introduced and enacted. DHS also needs to be integrated into the U.S.-Mexico JCP to ensure that if U.S. or tribal responders cross the border for an incident in Mexico, they are allowed to bring their equipment back across the border without concerns of forfeiture. Similar liability protection needs to be developed for responders from Mexico who cross the border for an incident in the United States.

Coordinate binational federal customs. Coordinating policies and procedures to address border security and environmental protection as a tandem

concept will facilitate preparedness and expedite emergency response, improving homeland security on both sides of the border. Both CBP and its Mexican counterpart (Aduana México) currently are working on procedures to expedite the entry and exit of emergency responders during incidents along the U.S.-Mexico border.

CHALLENGE 3

Technology equipment and personnel issues: environmental protection needs of small U.S. communities, Mexican communities, and U.S. tribes are overlooked in the “big picture.” With homeland security a top priority, large funding packages to develop advanced technology to be applied on a massive scale have assumed added importance. Yet along the U.S.-Mexico border, small U.S. and Mexican communities or tribes with very limited resources may need a relatively basic piece of equipment to operate much more effectively; however, they often lack the resources to obtain that equipment. The focus on large ticket items overlooks small communities not provided for in the “big picture” approach. Even very large Mexican border communities may have few resources. For example, Reynosa, Tamaulipas (2006 population of 620,000), has only two fire stations: one main station and one substation.

Next Steps

Provide additional support for low-tech, small-scale, local environmental protection efforts, Mexican communities, and tribes as part of overall strategic planning for national security. Smaller U.S. border communities and their emergency response needs must be given more consideration when homeland security funds are being disbursed. Only two of the U.S. border cities have populations greater than 500,000 (San Diego and El Paso), with the next largest city being Laredo, Texas, with a population of 230,000. Most U.S. communities have considerably smaller populations, such as Hidalgo, Texas (2000 pop. 7,322), which is across from Reynosa, Tamaulipas, or Eagle Pass, Texas (2000 pop. 22,413), which is across from Piedras Negras, Coahuila (pop. 170,000). In addition, most tribes also have relatively small populations.

Fortunately, some small U.S. border communities such as McAllen, Brownsville, and Harlingen,

Texas, already have received DHS support to enhance or improve their hazmat response capabilities; unfortunately, their sister cities in Mexico have not. One solution would be to establish a fund for Mexican communities and/or border tribes and make them aware that they now can apply for Border 2012 funds.

Where U.S. local emergency responders provide assistance, their experiences need to be documented and shared for the benefit of other U.S. and Mexican responders. For example, in the Matamoros rail car/butane tanker collision and explosion mentioned previously, local U.S. responders entered Mexico. In a separate incident that same month, rail cars carrying sulfuric acid at San Lázaro, Sonora, by the Santa Cruz River near the Sonora-Arizona border derailed. Approximately 25,000-30,000 gallons of sulfuric acid spilled, with acid entering the river. A “lessons learned” interview by DHS and EPA staff with those responders in both the Tamaulipas-Texas and Sonora-Arizona incidents should be conducted, and this information should be shared with local emergency responders along the entire border.

CHALLENGE 4

An overarching strategic plan for border region ports of entry is needed that reflects development, population, language, and staffing requirements, which also would lessen tensions that exist between security and environmental protection personnel at some ports of entry. After the events of September 11, 2001, there were changes in the reliance of CBP inspectors on state and local officials to help with inspections. For example, Texas Commission on Environmental Quality investigators were asked by CBP to no longer provide assistance at some South Texas ports of entry. If state investigators or emergency responders cannot assist CBP in inspecting transboundary shipments of hazardous waste, even if on an infrequent basis, environmental risks to border communities are multiplied.

Other border concerns include industrial development on the border, the large population on the border, lack of personal protective equipment for Mexican emergency responders, the language barrier, and tourists and migrant workers in the area. All of these factors could exacerbate the effects of a chemical release—because large numbers of people could be affected, the accident or even death

rate could increase, and language issues could result in further mistakes.

Next Steps

Strengthen communication and collaboration. Communication at all levels between security and environmental protection personnel on both sides of the border should be strengthened through face-to-face meetings between staff of relevant local, state, and federal agencies and U.S. border tribes. These activities should be followed up by memoranda of understanding or agreement (although the latter take longer to implement, they formalize the structure). Radio and cellular telephone communications between Protección Civil and U.S. and tribal emergency responders should be tested and updated regularly. Grant funding from DHS has allowed interoperability communications for some communities such as those in the Lower Rio Grande Valley of Texas but only on the U.S. side of the border.

When planning for border emergencies, consider actual settings of the border. The unique challenges of binational emergency response planning along the border require targeted, additional response measures and cooperation with Mexican colleagues. The most effective plans are developed and implemented on a local-to-local basis, with state and federal support. Emergency responders on both sides of the border should meet regularly and plan for contingencies; the sister city plans require regular planning exercises. Given the 3-year terms of local administrations in Mexico, along with significant staff turnover because there is no civil service system for staff permanence, frequent exercises are critical. U.S. emergency responders should familiarize themselves with potential industrial sites in Mexico where they may need to respond and vice versa. Tailored plans should reflect concerns of local communities and situations.

CHALLENGE 5

Tribal funding and communication pose a challenge, specifically the inability of border tribes to receive funding for emergency response and less than desirable communication on hazardous materials transported through and adjacent to tribal lands. In the United States, nearly all tribes are unable to meet the minimal require-

ments to qualify for directly receiving homeland security funds to help prevent terrorist attacks or to plan for impacts from such attacks. Instead, they are required to apply for funding through the state or county. These entities, in turn, do not receive enough funding themselves from the federal government to fund tribes, as pointed out in the Native American Environmental Protection Coalition's *Border 2012 Tribal Accomplishments & Issues Report* (April 2006). Exceptions include the Tohono O'odham Nation, which received funding directly from DHS, and DOT assistance to Arizona's Inter Tribal Council, which includes several border tribes. As pointed out earlier in this *Tenth Report*, there needs to be better communication with tribes about transportation of hazardous materials through or near their lands.

Next Steps

DHS should earmark funding specifically for border tribes. As sovereign nations, tribes should be allowed to apply directly to the federal government for funds for emergency response, or their applications should be given more consideration.

Increase tribal participation in training exercises that involve federal, state, and local entities. Working cooperatively with tribal governments and their tribal agencies will enable a quicker response time and more efficient protection of affected communities and surrounding environmental resources. Tribal governments are better equipped than outside agencies to contact their tribal communities.

Projects and Partnerships

This section presents some examples of partnerships that are making a difference and, therefore, potentially could be tapped to help develop a strategic plan to address both border security and environmental protection. Some items are partnerships between security and environmental agencies, whereas others are partnerships between agencies within the security sector.

Border 2012 partnerships. To accomplish the Border 2012 goal of reducing the risk of public exposure to chemical, biological, and radiological releases, and to enhance the La Paz Agreement, the JCP, and the sister city plans, a number of partnerships

have been initiated at the regional and national levels. One such initiative is the Radio Frequency Identification Pilot (see next project).

Radio Frequency Identification (RFID) Pilot to track hazardous waste shipments. EPA, in partnership with the National Aeronautics and Space Administration's Dryden Space Center and several vendors, is piloting the use of RFID technology to track transboundary shipments of hazardous wastes. Funded by EPA's Office of Research and Development and Office of International Affairs, the pilot will test the feasibility of using this emerging technology. The vendors voluntarily contribute tags, readers, and technical staff necessary for laboratory and field testing, with results posted on the Internet. The goal of the pilot is to track hazardous wastes leaving generators in the Mexico/U.S. border zone across the border and to a U.S. receiving facility. Field testing is scheduled for early spring 2007.

Baja California Emergency Management Institute. In April 2006, this public/private binational partnership signed a memorandum that provides for an infrastructure and timeframe for sustainable emergency preparedness. Based in Tijuana, partners include Baja California State Civil Protection; Tijuana Fire and Civil Protection Department; PROFEPA; Autonomous State University of Baja California (the Institute's fiscal and organization coordinator); EPA; the County of San Diego; the California Specialized Training Institute; and industry partners, such as Cámara Nacional de la Industria de Transformación (Mexican National Chamber of Commerce) and the Pro-Bomberos Tijuana Association. Additional 2006 Institute activities included standardizing and certifying first-responder courses, creating binational teams to conduct HAZMAT technical training, and collaborating with the Agency for Toxic Substances and Disease Registry to offer bilingual training for the medical consequences of exposure to chemical agents of opportunity. Between September and November 2006, the Institute's partners hosted five binational capacity building sessions that reached 260 participants. Three of those sessions covered multiple environmental programs such as emergency preparedness/response, risk management, and pollution prevention.

The Border Agency Fire Council (BAFC). BAFC of the San Diego-Baja California border area exemplifies effective transborder collaboration for emergency response in the form of wildfire fighting. It

was established formally during the 1996 fire season after a dramatic increase in wildfire activity caused by campfires of undocumented immigrants in remote mountainous areas of San Diego County and the border. The Council includes 33 U.S. and Mexican members, including government agencies, elected officials, emergency responders, private organizations, and environmental specialists. Since 1998, a mutual assistance agreement has enabled emergency responders to cross the border to protect lives and property. Under this agreement, Mexican fire agencies have crossed into San Diego County to assist local fire fighters on a number of occasions. In addition, U.S. agencies regularly provide assistance south of the border.

Four Sister-City Collaboration (Imperial County, California and Mexicali, Baja California; Yuma, Arizona and San Luis Rio Colorado, Sonora). In 2006, these two pairs of sister cities initiated projects to enhance preparedness and reduce the risk of all hazard releases in this four-state area with a joint population of more than 1 million. Projects include building first-responder capacity, involving industry in sister city plan exercises and updates, implementing emergency management systems focused on industry compliance with civil protection laws, and developing and exercising expedited border-crossing protocols for emergency personnel.

Collaboration between the Arizona/Sonora Emergency Preparedness and Response Task Force and the Arizona/Mexico Commission Emergency Management Committee. The Task Force is collaborating with the Arizona/Mexico Commission and three Arizona counties, the Tohono O'odham Nation, and the Community of Sonoyta, Sonora, to develop a trilateral emergency contingency plan. The Task Force and the Committee held a joint meeting November 15-17, 2006, to review progress in trilateral planning, including additional training for 100 border first responders.

Interagency Arizona Port Inspection Exercise. A summer 2006 interagency operation coordinated by the U.S. Department of Justice to inspect hazardous materials trucks at Arizona's principal commercial crossings, Nogales/Mariposa and San Luis, detected some violations, although most trucks were in compliance. This may, in part, result from the fact that many of the north- and southbound hazardous materials trucks are regular customers—shippers and drivers familiar with the procedures and well

known to inspectors. Vehicles from unknown shippers are naturally given special scrutiny.

Southwest Consortium for Environmental Research and Policy (SCERP). SCERP's 2007 conference, held annually in Rio Rico, Arizona, will examine the issue of homeland security and the border environment. SCERP is a collaboration of five U.S. and five Mexican universities located in all 10 U.S.-Mexico border states. The five U.S. universities are Arizona State University, New Mexico State University, San Diego State University, the University of Texas at El Paso, and the University of Utah. The Mexican universities are El Colegio de la Frontera Norte, Instituto Tecnológico de Ciudad Juárez, Instituto Tecnológico y de Estudios Superiores de Monterrey, Universidad Autónoma de Baja California, and Universidad Autónoma de Ciudad Juárez (<http://www.scerp.org/>).

North American Commission on Environmental Cooperation (CEC) Waste Tracking Project. CEC has undertaken a study of transboundary hazardous waste tracking in North America in its role as an international organization created by Canada, Mexico, and the United States under the North American Agreement on Environmental Cooperation (NAAEC). The Agreement complements the environmental provisions of the North American Free Trade Agreement. There are three objectives for this project: (1) expedite movement of legal materials across borders; (2) stop illegal shipments that could threaten human health and the environment; and (3) improve enforcement capacity. Scheduled for completion in December 2009, the project will include information exchange; training to customs officials and other law enforcement officials, including border and port inspectors; and capacity building within legal and judicial systems.

Automated Customs Environment/International Trade Data System (ACE/ITDS). During 2006, EPA obtained direct, online access to U.S. Customs' imports data for the first time. This access

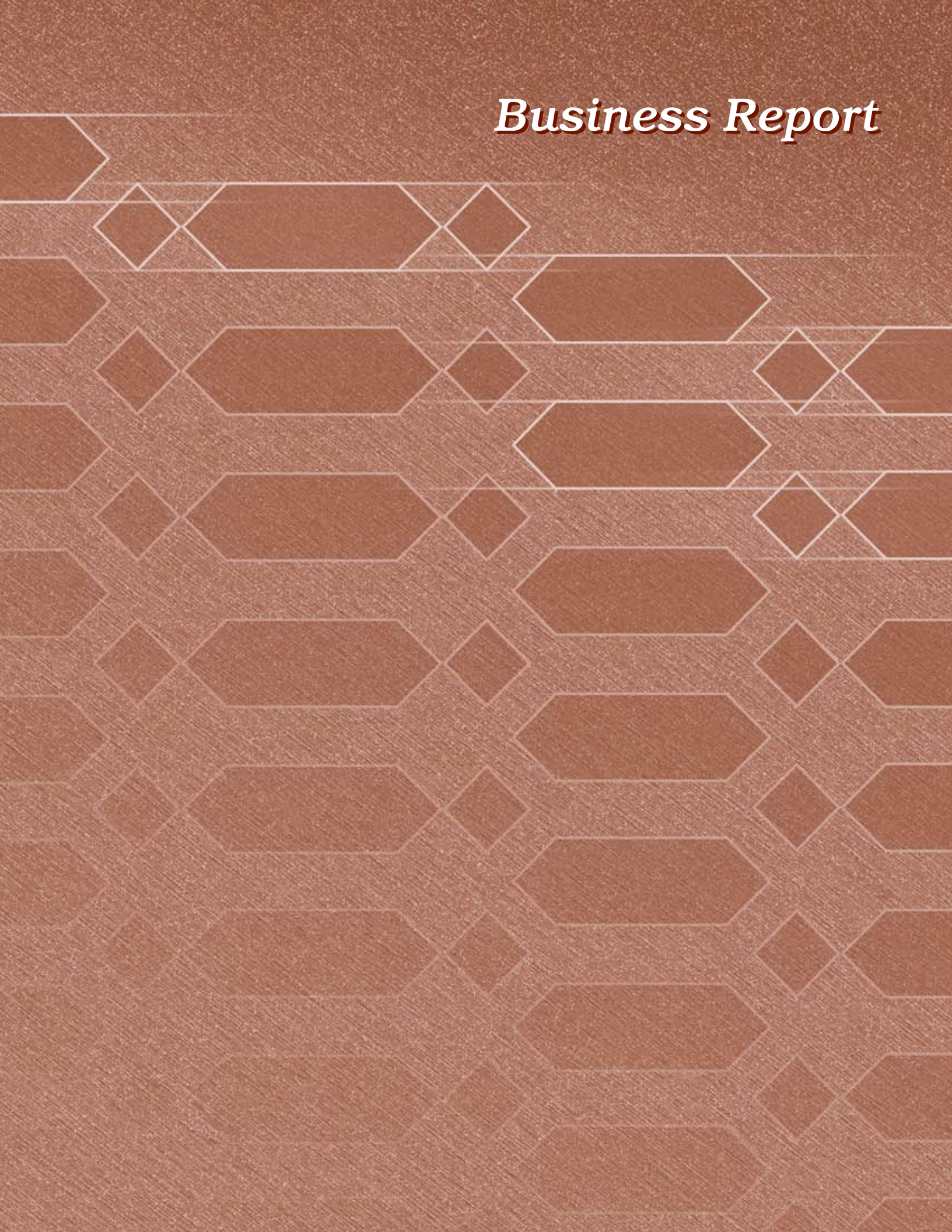
allows comparison of permitted import waste quantities against actual imports to identify discrepancies. EPA is adding its import/export data needs to Customs' modernized database, ACE, which currently is under development. The goal of this multiyear, \$300 million-plus database is to provide a secure, integrated, government-wide system for electronic management of trade and transportation data. Some 25 federal agencies, organized as ITDS, rely on ACE. ACE/ITDS will enable federal agencies to target high-risk cargo while expediting low-risk cargo and also will allow importers and exporters to provide their data electronically, without filing multiple reports with various agencies. Some of the ACE/ITDS information EPA needs will not be available until 2009.

EPA Enforcement and Compliance Assistance Training Programs. EPA's Office of Enforcement and Compliance Assurance has developed online training in undocumented trafficking of endangered species; training for Mexican judges; identifying, understanding, and addressing differences in laws between countries; and developing and sharing protocols for detecting noncompliant transboundary shipments of hazardous waste.

Joint Contingency Plan (JCP). The JCP addresses emergencies caused by releases, spills, fires, or explosions of hazardous substances and provides a mechanism for cooperative responses to potential polluting incidents by the United States and Mexico in the border area (see *Risk and Emergencies* section above for more information).

Tribal Participation in Trinational Exercises. The Kickapoo Traditional Tribe of Texas hosted meetings and participated in a trinational emergency response exercise with representatives from all levels of government from the United States and Mexico. The trinational exercise simulation was held the week of September 18, 2006, and also included participation by the sister cities of Eagle Pass, Texas, and Piedras Negras, Coahuila.

Business Report



Board Meetings

During 2006, as in previous years, the Board held three public meetings. One took place in Washington, DC, and the other two were in U.S. border communities—San Diego, California, and Alpine, Texas. One highlight of the Washington, DC, meeting was the release of the Board’s annual report to the President and Congress. The DC meeting also included briefings from national policymakers and a strategic planning session.

By contrast, the focus of the two border community meetings was to more closely examine particular environmental issues that present challenges and opportunities for those portions of the border region. Speakers included local government officials as well as regional environmental policy experts. Particularly valuable were the Public Comment sessions, when the Board heard the perspectives of community members whose daily lives are affected by border-region environmental policies. Following are summaries of the 2006 meetings, including a list of public attendees who signed the meetings’ registration lists.



(1) EPA Administrator Steve Johnson (right) joins (left) Border 2012 U.S. Coordinator Jerry Clifford and (center) Board Chair Paul Ganster at the Washington, DC, meeting. (2) Board members gain additional input from presentations given by guest speakers. (3) and (4) Postmeeting field trips—such as this one to Big Bend National Park that took place after the Board’s Alpine, Texas, meeting—enable Board members to better understand issues faced by specific portions of the border region. (5) Public attendees, such as these at the San Diego meeting, add their perspectives via Public Comment sessions and informal discussions.

Washington, DC – March 14-15

The Board's annual meeting in Washington, DC, took place March 14-15, 2006. The meeting on March 14 began with keynote remarks from *Honorable Stephen L. Johnson*, U.S. Environmental Protection Agency (EPA) Administrator, followed by remarks from *Jerry Clifford*, U.S. National Coordinator, Border 2012, and Deputy Assistant Administrator, EPA Office of International Affairs. They thanked the Board for the advice contained in its Ninth Report, which had just been released at a press event prior to the meeting. After their remarks, two panel discussions took place during which U.S.-Mexico border environmental policy experts provided feedback on the report. Panelists for the Air Quality and Transportation section of the report included *Gary A. Ragatz* of U.S. Customs and Border Protection (CBP); *Jill Hochman* of the Federal Highway Administration; *Merylin Zaw-Mon* of the EPA Office of Air and Radiation; *Carlos de la Parra*, Minister for Environment, Embassy of Mexico; and *Sergio Sanchez*, Clean Air Initiative for Latin American Cities, World Bank. Panelists for the Cultural and Natural Resources section of the report included *Alida Montiel* of the Inter Tribal Council of Arizona, *Mariddie J. Craig* of the White Mountain Apache Tribe, *Daniel G. Carey* of the National Trust for Historic Preservation, *David Tarler* of the U.S. Department of the Interior (DOI), and *Melinda Tajbakhsh* of the U.S. Fish and Wildlife Service. During the afternoon of March 14, the Board heard from speakers who were experts on the topic it had selected for its Tenth Report: the intersection of environmental protection and U.S.-Mexico border security. Speakers included *Kevin Stephens* of CBP; *Janet Bearden* of the EPA Office of Enforcement and Compliance Assurance; and *Brian Segee* of the Defenders of Wildlife. On the following day, March 15, the Board held its annual Strategic Planning session and briefed additional officials in the Washington, DC, area on the recommendations in its report.

Public Attendance

Timothy Borky, EPA; *Oscar Carrillo*, EPA; *Steve Cook*, Daily Environment Report; *Tricia Elbrock*, Malpai Borderlands Group, Animas, NM; *Brian Hansen*, Platts News Service; *Chris Hope*, CBP, Department of Homeland Security (DHS); *Sherry Hutt*, National Park Service (NPS); *Davis Jones*, EPA; *Cynthia D. Jones-Jackson*, Associate Director, Office of Cooperative Environmental Management, EPA; *Aurelia Micko*, Department of State; *Toni Rousey*, EPA; *Phoebe L. Ng*, White Mountain Apache Tribe, Whiteriver, AZ; *Chris Oh*, CBP, DHS; *Jonathan Putnam*, NPS; *Christine Senteals*, Hispanic Link, Washington, DC; *Marc Thomas*, EPA; *P. Sanchez*, UNIVISION; *Ron Slortkin*, EPA; *D. Rick Van Schoik*, Southwest Consortium for Environmental Research and Policy (SCERP); *Maven Williams*, DHS.

San Diego, California – July 18-19

The second meeting of 2006 took place in San Diego, California, July 18-19, 2006; it was preceded the afternoon before by a premeeting joint session with the Border 2012 Emergency Preparedness and Response Task Force in the Chula Vista Community Center. Opening remarks on July 18 were made by the *Honorable Denise Moreno Ducheny*, State Senator, 40th District of California and Secretary *Enrique Villegas*, General Director Environmental Protection, Baja California. Speakers on July 18 addressed the topic of border security and environmental protection and included *Michael Hance* of the U.S. Border Patrol; *Diane Takvorian* of the Environmental Health Coalition; *Michael P. Dorsey*, Border 2012 California/Baja California Emergency Re-

sponse Taskforce Official; *Barbara Maco* of EPA Region 9; *Flavio Olivieri*, Liaison for Consejo Consultivo de Desarrollo Sustentable; *Ing. José Luis Sánchez* of the Grupo Ambiental del Noroeste; *Mike White* of the Conservation Biology Institute; *Tina Terrell*, Forest Supervisor for the Cleveland National Forest; and *Leonardo Hurtado*, SAIC. The second day of the meeting, July 19, the Board held a business meeting in the morning. Then, to supplement its understanding of environmental issues in this portion of the border region, the Board went on a postmeeting afternoon field trip that included the following components: Border Field State Park via Tijuana River Valley, International Wastewater Treatment Plant, and City of San Diego Water Reclamation Plant; briefing on Tijuana Estuary; viewing of site of proposed "triple fence"; and tour of Otay Mesa Port of Entry commercial inspection facility as well as the site of a new proposed border crossing at East Otay Mesa.

Public Attendance

Javier Avila, Office of California State Senator Ducheny; *Edward Cardenas*, San Diego Fire Department; *Lawrence Chang*, University of California at San Diego (UCSD); *Jorge Garces*, Managing Director, NADBank; *Amelia Giacalone*, UCSD; *Cecilia Gonzalez*, UCSD; *Deanneka Goodwin*, Office of California Congresswoman Susan Davis; *David Heilig*, U.S. Department of Agriculture; *Edward Janowicz*, UCSD; *Alven Lam*, U.S. Department of Housing and Urban Development; *Cecilia Lavaniga*, UCSD; *April Lee*, Native American Environmental Protection Coalition; *Doug Liden*, EPA; *Charles Mallon*, Citizen, San Diego, CA; *Brian Martin*, Border Patrol, El Cajon, CA; *Nick Martorano*, EPA San Diego Border Office; *Katie Meehan*, University of Arizona; *Suzanne Michel*, Conservation Biology Institute; *Ryan Moreland*, UCSD; *Jennifer Neeley*, Defenders of Wildlife; *Daniel Newbold*, UCSD; *Franco Ocampo*, UCSD; *Tae Park*, UCSD; *Mitesh Patel*, UCSD; *Jim Peugh*, San Diego Audubon Society; *Jessica Piekeilek*, University of Arizona; *Jose C. Pierre*, Citizen, Tijuana, Mexico; *Lorena Lopez Powers*, EPA San Diego Border Office; *Oscar Romo*, National Oceanic and Atmospheric Administration; *Christin Rubin*, California State and Consumer Services Agency; *Ron Saenz*, San Diego Association of Governments; *Melody Sees*, Los Coyotes Band of Indians; *Stephen Siciliano*, Bureau of National Affairs; *Paula Stigler*, Pala Band of Mission Indians; *Sean Sullivan*, Sierra Club; *Tomas Torres*, Director, EPA San Diego Border Office; *Alice Tsing*, UCSD; *Julieta Valdez*, Citizen, San Marino, CA; *Rick Van Schoik*, SCERP; *Chris Wong*, UCSD.

Alpine, Texas – October 24-26

The theme of the final meeting of 2006, which took place October 24-26, 2006, in Alpine, Texas, was Big Bend/El Gran Recodo. Opening Remarks were made by *Vic Morgan*, President of Sul Ross State University; *Alpine Mayor Mickey Clouse*; and *County Judge Val Clark Beard*. Speakers addressed the Board on environmental issues pertinent to the Big Bend region. Keynote speakers included *Dr. Ernesto Enkerlin*, President, National Commission on Protected Areas, Mexico; and *Russ Whitlock*, State Coordinator, Texas National Parks, NPS. Other speakers included *Paul Silver*, Rio Grande private landowner; *Tom Beard*, Far West Texas Water Planning Region; *David Schanbacher*, Chief Engineer, Texas Commission on Environmental Quality; *Jack Schmidt*, Professor, Utah State University; and *Mark Briggs*, World Wildlife Fund. On October 25, the Board heard presentations from additional National Park Service officials during an all-day field trip to Big Bend National Park. Speakers there included *Brad*

Traver, Vidal Davila, Joe Sirotnak, Jeff Bennett, and Don Corrick. The Board also heard a presentation from Billy Pat McKinney of CEMEX. The last day of the meeting, October 26, was devoted to a business meeting during which it determined meeting dates and locations for 2007: March 13 and 14, Washington, DC; July 24 and 25, Brownsville, Texas; and October 3 and 4, Las Cruces, New Mexico.

Public Attendance

Larry Allen, Citizen, Albuquerque, NM; Adelina Beall, Sul Ross State University (SRSU); Tom Beard, Citizen, Alpine, TX; Jeff Bennett, Physical Scientist, Big Bend National Park; Vidal Davila, Big

Bend National Park; Margaret Earnest, Texas Commission on Environmental Quality; Chad Ellis, Natural Resources Conservation Service, Alpine, TX; Ty Fain, Rio Grande Institute; Aimee Roberson, U.S. Fish and Wildlife Service; Juan Antonio Flores, Public Affairs Director, NADBank; Leslie Hopper, Rio Grande Research Center, SRSU; Keith Klein, Professor, Industry and Technology Department, SRSU; Matthew O'Toole, Research Technician, Rio Grande Research Center, SRSU; Tom Shiller, SRSU; Keith Sternes, Chair, Department of Biology, SRSU; Brad Traver, Acting Superintendent, Big Bend National Park; Kevin Urbanczyk, Chair, Department of Earth and Physical Science, SRSU.

Other Activities

Between meetings, Board members remained actively involved in the work of the Board through several channels: some served as members of planning committees for upcoming meetings, others took a lead role in drafting sections of the next report, and still others continued to conduct outreach on the current report at a variety of border-region and national events. In addition to its annual report, the Board also issued several short Comment Letters on time-sensitive topics. Finally, the Board also maintained its information exchange on U.S.-Mexico border environmental policy developments with counterpart Mexican advisory groups, referred to as *Consejos*.

One of the highlights of the year was the development of a closer working relationship with the Council on Environmental Quality, whose Chair, James Connaughton, serves as the President's principal environmental policy advisor.

Board's Ninth Report Released

After delivering its recommendations to key Administration officials, the Board publicly released its Ninth Report on March 14, 2006, at a press event that preceded its 2-day meeting in Washington, DC. Media coverage was extensive, including articles in publications such as *BNA Daily Environment Report*, *Department of State Washington File*, *Congressional Quarterly*, *San Diego Union Tribune*, *Albuquerque Tribune*, *Arizona Star*, and *USA Today*. Board members also met with Agency officials and senior officials from other organizations to disseminate the report and invite feedback on its recommendations.

The Ninth Report provides advice on two issues: (1) working toward healthy air quality while also supporting transportation activities; and (2) leveraging protection efforts for cultural and natural resources. Recommendations call for the following actions:

Air Quality and Transportation

Border Stations and Transportation Infrastructure: Bolster infrastructure, technology, personnel, and related activities through substantial new funding and intensify long-range planning and coordination at the binational, national, state, and local levels to cope with the congestion at border crossings and thus reduce air pollution.

Emissions: Harness new and emerging technologies and fuels to reduce emissions from diesel trucks, buses, municipal and private fleets, and passenger vehicles and identify private/public funding sources to accelerate the process.

Public Transit and Alternatives to Driving Alone: Encourage public transportation, ride-sharing, car-sharing, biking, and walk-

ing in border cities so that fewer people will drive alone, thus reducing motor vehicle trips and the emissions of pollutants.

Cultural and Natural Resources

Capacity Building: Efficiently use and leverage existing federal support initiatives such as the National Heritage Area Program. Establish more public-private partnerships to increase both funding and staffing levels. Foster more public involvement in cultural resources preservation through stronger public education about its value.

Growth: Increase partnerships between preservation groups and agencies to purchase land with high-value cultural and natural resources, thus helping to manage growth. Create incentive programs to encourage private landowners and developers to voluntarily protect cultural resources. Encourage tribal governments and agencies to participate in government-to-government consultation to minimize damage to cultural resources, including sacred sites.

Security: Undertake border security efforts while recognizing the need to protect cultural and natural resources. Improve efforts in interaction, coordination, and cooperation among federal, tribal, state, and local governments. Examine methods to reduce the number of undocumented migrants crossing border tribal lands, thus reducing associated damage to sacred sites, burial grounds, archeological sites, important ecosystems, and traditional lifestyles.

For the full English text of the report, see www.epa.gov/ocem/gneb/gneb9threport/English-GNEB-9th-Report.pdf. For the full Spanish text, see <http://www.epa.gov/ocem/gneb/gneb9threport/espanol-gneb-9th-report.pdf>.



CHAIRMAN

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

November 2, 2006

Dr. Paul Ganster
Chair, Good Neighbor Environmental Board
5500 Campanile Drive
San Diego, California 92182-4403

Dear Dr. Ganster:

I am pleased to respond on behalf of President George W. Bush to the Ninth Report of the Good Neighbor Environmental Board, entitled "*U.S.-Mexico Border Environment: Air Quality and Transportation & Cultural and Natural Resources.*" President Bush and his Administration appreciate the valuable role the Board plays in informing decisions related to environmental and infrastructure issues along the U.S. border with Mexico.

The diversity and breadth of its membership places the Good Neighbor Board in a unique position to provide information and recommendations that are invaluable in shaping our national environmental policy along the border region. Your insights on how collaboration can be strengthened so the region's fragile environment is protected while its economy is strengthened are proving especially valuable.

I also want to thank you for your recent request that the Council on Environmental Quality play a more active and visible role in the activities of the Board. As you are aware, I have assigned Mitch Butler from my staff to work with you on these important issues. Mitch will report back frequently to ensure that I and relevant members of my staff remain engaged going forward.

Best wishes as you complete preparations for your upcoming Tenth Report to the President and Congress; I look forward to working with you on this and future reports.

Yours Sincerely,

A handwritten signature in black ink, appearing to read "James L. Connaughton", written over a horizontal line.

James L. Connaughton



*an independent federal advisory committee
on environmental sustainability in the
U.S.-Mexico border region*

Chair
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Designated Federal Officer
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April 14, 2006

The President
The Vice President
The Speaker of the House of Representatives

As your advisors on environmental and infrastructure issues along the U.S. border with Mexico, we write to express our continued support for the North American Development Bank (NADB) and the Border Environment Cooperation Commission (BECC). Both agencies were created in 1993 under a bilateral side agreement to the North American Free Trade Agreement to improve environmental infrastructure in the U.S.-Mexico border region. The NADB was established specifically to help finance projects in the U.S.-Mexico border after certification by BECC.

Recent media reports in both the United States and Mexico indicate that over the past few years, members of the U.S. Department of Treasury have discussed an attempt to close down the NADB with members of Mexico's Secretariat of Finance and Public Credit. In fact, Treasury spokespersons have acknowledged these talks in public statements. While it appears that a shutdown has been averted for now, the Good Neighbor Environmental Board remains very concerned that this issue may arise again, and that the benefits of NADB still are not fully understood.

Any movement toward eliminating the NADB is, in our view, extremely regrettable because the Bank and the Commission are the very institutions helping to provide solutions to environmental infrastructure needs in the border region: As of December 31, 2005, NADB had provided \$704 million, through grants or loans, to 90 border environmental infrastructure projects in both the U.S. and Mexico border regions. These projects have an estimated total cost of \$2.35 billion dollars and demonstrate NADB's ability to leverage additional capital. As a result of these NADB grants or loans, many of the recipient communities have improved their potable water facilities or wastewater treatment plants; in some cases, these funds have made possible the development of facilities where none had existed before. NADB's water and wastewater programs are directly and indirectly benefiting more than 6 million people on the U.S.-Mexico border.

We recognize that all institutions have room for improvement, and we respect the recent reforms your administration made to the NADB and the BECC. Just last year, you issued Executive

Administrative support: U.S. Environmental Protection Agency, Office of Cooperative Environmental Management,
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Order 13380 regarding membership of a combined NADB-BECC board. In addition, in April 2004 you signed into law HR 254, which made changes to the NADB and the BECC, preceded by a Statement of Administration Policy (February 26, 2003) that read:

“The Administration strongly supports passage of H.R. 254, which authorizes key reforms of the North American Development Bank (NADB) and the Border Environment Cooperation Commission (BECC). Since taking office, President Bush has worked closely with Mexico’s President Fox to make these institutions more effective in addressing the critical environmental needs of the communities of the U.S.-Mexico border region and, thus, improve the quality of life for the region’s 12 million residents...”

In January of this year, to fulfill Executive Order 13380, U.S. members were appointed to the combined board. With this series of reforms to NADB and BECC having recently occurred, we believe these changes should be allowed to work their course. In addition, we strongly urge members of the new board to hold a public meeting as soon as practical and act on pending projects.

The U.S.-Mexico border region continues to be an area of tremendous environmental and infrastructure needs. More than \$900 million in water and wastewater infrastructure needs were identified in 2005. The dissolution of the NADB would create serious problems for border community residents and, ultimately, for the nation. Rather than consider terminating the NADB, we advise, instead, that the NADB be strengthened through continued funding and a recommitment by the members of its Board, as well as high ranking staff within the U.S. Department of Treasury, to advance its important work.

Sincerely yours,



Paul Ganster,
Chair

Note: As the U.S. Environmental Protection Agency and the U.S. Department of State are members of the combined BECC-NAB board, the Good Neighbor Environmental Board representatives from those agencies have recused themselves from this Comment Letter. In addition, the representatives from the U.S. Departments of Agriculture, Health and Human Services, Interior, and Transportation also have recused themselves, as has the U.S. Commissioner of the International Boundary and Water Commission.



*an independent federal advisory committee
on environmental sustainability in the
U.S.-Mexico border region*

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October 12, 2006

The President
The White House
Washington, D.C. 20500

Dear Mr. President:

Members of the Good Neighbor Environmental Board (Board)* are concerned about the potential environmental impacts resulting from construction of new fencing, access roads, and other related infrastructure being proposed and, in some cases, built, along the border with Mexico. The Board supports the need for efforts to enhance national and border security; however, we seek to assure that these efforts are balanced with efforts toward environmental protection.

The Board believes that border security projects can be developed that promote both security and conservation. Failure to work towards a balanced approach will reduce the effectiveness of both efforts. To promote such a balanced perspective, we respectfully request that the following recommendations be followed by U.S. federal agencies when designing and implementing infrastructure projects to advance security along the U.S.-Mexico border:

- Use the expanded security corridor, sometimes referred to as “triple fencing,” only in areas where environmental damage will be minimal and where this new infrastructure will protect important environmental, historical, and cultural resources.
- In sensitive rural areas that are important wildlife corridors, promote the use of barriers that are impermeable to vehicular traffic but allow wildlife movement.
- Aggressively explore the use of information and remote sensing technologies that will enhance border security while reducing the physical footprint of interdiction activities along the border.

**The Good Neighbor Board is an independent federal advisory committee that advises the President and Congress of the United States on environmental issues and infrastructure needs along the border with Mexico. The Board's Tenth Annual Report, which we are currently developing, seeks to balance national security activities with a continued commitment to protect environmental quality in the U.S.-Mexico Borderlands.*

Administrative support: U.S. Environmental Protection Agency, Office of Cooperative Environmental Management
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- More fully incorporate appropriate environmental review, public participation, and scientific analysis into the design and implementation of all border security infrastructure projects; this review should include consideration of transboundary drainage patterns.
- Establish ongoing training for border security personnel about the local natural environment and significant natural and cultural resources.
- Work with the government of Mexico to protect particularly important and sensitive habitats that span the border.

Thank you for your consideration of this request. We would be happy to discuss it with appropriate members of the Administration, and we would appreciate a reply on this important issue.

Respectfully,



Paul Ganster, Chair
Good Neighbor Environment Board

CC The Vice President
Speaker of the House of Representatives
James L. Connaughton, Chair, Council on Environmental Quality
Stephen L. Johnson, Administrator, U.S. Environmental Protection Agency

Note: The Good Neighbor Environmental Board representatives from the U.S. Department of State, the U.S. Department of Transportation, the New Mexico Environment Department, and the Texas Commission on Environmental Quality have recused themselves from this Comment Letter.



CHAIRMAN

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

December 7, 2006

Dr. Paul Ganster
Chair, Good Neighbor Environmental Board
Mail Code 1601 E., 655 15th St. NW Suite 800
Washington, DC 20460

Dear Chairman Ganster,

Thank you for your letter regarding the potential environmental impacts resulting from construction of fencing, access roads, and other infrastructure along the border with Mexico. President George W. Bush appreciates the Board's input on these important matters and has requested that I respond to you on his behalf.

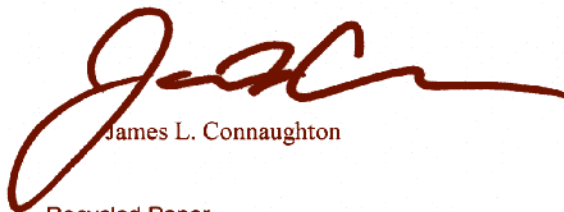
Passed into law on October 26, 2006, the Secure Fence Act (Act) authorized the installation of additional physical infrastructure along the US-Mexico border. An important step forward in our nation's efforts to control our borders, the Act will also serve as a source of protection from environmentally harmful immigrant traffic through the Federal lands lying along 39% of our Southern border.

Thank you for your suggestion regarding the use of remote sensing equipment, wildlife friendly barriers, and other technologies. As you know, the Act authorizes the Department of Homeland Security to use surveillance, barrier tools "and other means" to secure mountainous areas where erecting a fence would be difficult. The President and his Administration are committed to ensuring that this authority is utilized in a manner that will enhance security while also mitigating the impact on the many species of wildlife that utilize mountainous corridors along the border.

The Administration is similarly committed to working with Federal and non-Federal government agencies, the Mexican Government, landowners, and conservation organizations to identify and utilize additional methods of environmental mitigation wherever possible throughout implementation of the Act.

The President understands that while national security concerns are paramount, we can and must protect the nation in a manner that accounts for the importance of environmental stewardship and natural resources conservation. The President and his Administration remain committed to working with the Good Neighbor Environmental Board going forward. I would be happy to meet with you and other members of the Board to discuss your recommendations and the implementation of the Secure Fence Act. Thank you for your input and for your continued service to our country.

Yours Sincerely,



James L. Connaughton

Recycled Paper

Counterpart Mexican Advisory Groups, the “Consejos”

The following report was prepared by “Consejo” representative Flavio Olivieri, Baja California Business Sector representative, Northwest Regional Board, Citizens Sustainable Development Advisory Board.

The Mexican “Consejos” advise the Mexican Federal Secretary for Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales; SEMARNAT) by providing written recommendations on environmental policy. These advisory groups are comprised of five regional councils (Northeast, Northwest, South, Central, Central-West) and one national council. The Good Neighbor Environmental Board works most closely with the Northeast and Northwest Councils. Council members serve as elected representatives from each state and come from nongovernmental organizations; the social, business, and academic sectors; and state governments and local congresses. Women, youth, and Indian representatives are designated in the national council.

The Consejos were very active in 2006, which ended with preparations for the transition of the new federal government administration in Mexico. During the year, the councils’ relationship with the Good Neighbor Environmental Board was highlighted by the participation of Consejo members from northern border states in two of the Board’s meetings. In addition, the Board’s Ninth Report was distributed to all Consejo members from the northern border states and via presentations at the Consejos’ national meetings.

Regional councils and the national council worked in technical groups to develop their recommendations. At November’s national council meeting, 44 recommendations were approved. The International and Border Issues Working Group focused on the following issues:

- Strengthen SEMARNAT’s participation and funding in Border 2012 Working Group, Commission for Environmental Cooperation, and Border Environment Cooperation Commission activities.
- Promote binational working groups to review and present recommendations on mitigating potential environmental impacts caused by the construction of fences on the U.S.-Mexico border.

- Continue the Registro de Emisiones y Transferencia de Contaminantes’ (Mexico’s registry of emissions) followup and further harmonization with the United States and Canada.
- Strengthen the overview and resolution of environmental conflicts in Mexico’s southern border with Belize and Guatemala.

In addition to preparing the recommendations, most council members participate in other working groups and forums. Some highlights of their accomplishments include:

- *Presidential Decree for the Marine Environmental Zoning of the Gulf of California.* Several Consejo members participated over a 2-year period with various federal, state, and local government officials to develop the Marine Environmental Zoning Plan for the Sea of Cortez, which was finally approved by the President of Mexico and published in the Official Gazette last November. This Plan will provide environmental guidelines for federal authorities to regulate the sustainable use of this pristine sea.
- *Fourth World Water Forum.* A large group of Consejo members participated in the organization and preparation of presentations for the Fourth World Water Forum that took place March 16-22, 2006, in Mexico City. Almost 20,000 people from throughout the world participated in 206 working sessions in which a total of 1,600 local actions were presented. Official representatives and delegates from 140 countries participated, including 120 mayors and 150 legislators as well as experts and representatives from nongovernmental organizations, companies, and civil society.
- *National Educational Program for Sustainable Development.* Members of the Consejos Working Group on Environmental Education collaborated with SEMARNAT’s Center for Sustainable Development Education to develop the first national educational program for sustainable development.

Membership

Representation on the Board remained diverse, with the business, academic, local and state government, tribal, and non-profit sectors represented. Federal agency representation included the departments of: Agriculture, Health and Human Services, Housing and Urban Development, Interior, State, and Transportation; the U.S. Environmental Protection Agency; and the U.S. Commissioner of the International Boundary and Water Commission.

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****Note: The list above includes all members who served during 2006. An asterisk (*) indicates individuals who completed their service during the year. See the Good Neighbor Environmental Board Web Site for the most recent membership list (<http://www.epa.gov/ocem/gneb>).***

Note, also, during the latter portion of 2006, the Department of Homeland Security (DHS) participated on an informal basis in Board activities, including development of the Tenth Report. Although the Department is in concurrence with many of the Board's recommendations, it holds differing views in several cases (e.g., the Board's recommendation that DHS carry out additional public outreach, in addition to what it already is doing, related to its National Environmental Policy Act activities).

Resource Specialists

(non-Board members who work closely with the Board)

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Membership Changes

Nonfederal Members

EPA Administrator Stephen L. Johnson appointed two new members to the Board to represent their respective state governments. *Rosario Marin* from the California Integrated Waste Management Board was appointed to represent California, and *Ron Curry*, Cabinet Secretary for the New Mexico Environment Department, was appointed to represent New Mexico. In addition, three existing members were appointed to serve a second term: *Paul Ganster* of San Diego State University (serving as Board Chair); *Ned Norris, Jr.*, Vice Chairman, The Tohono O'odham Nation; and *Robert Varady*, Deputy Director for the Udall Center for Policy Studies. Other new members appointed include: *Christopher P. Brown* of New Mexico State University; *Michael P. Dorsey* of the County of San Diego Department of Environmental Health, Hazardous Materials Division; *Edward Elbrock* of the Malpai Borderlands Group; *Gen Long*, Pro-Tem Mayor for the City of Mission, Hidalgo County, Texas; and *Jennifer A. Montoya* of the World Wildlife Fund. The following nonfederal members' terms came to an end during 2006: *Larry Allen* of the Malpai Borderlands Group; *Gedi Cibas*, Border Program Manager, New Mexico Environment Department (representing New Mexico); *Diane Rose*, Mayor, City of Imperial Beach, California; and *Pete Silva* of the California Water Resources Board (representing California).

Federal Members

New federal members joining the board in 2006 included: *Daniel D. Darrach*, Coordinator, U.S.-Mexico Border Affairs, U.S. Department of State; *Marilyn DiSirio*, Associate Director, Global Health, U.S. Department of Health and Human Services; *Carl Edlund*, Director of the Multimedia Planning and Permitting Division, EPA Region 6; *Carlos Marin*, Acting U.S. Commissioner, International Boundary Water Commission; and *James Stefanov*, Deputy Director, U.S. Geological Survey Texas Water Science Center, U.S. Department of the Interior. Federal members whose terms ended in 2006 included: *John Ritchie*, Border Co-

ordinator, Office of Mexico Affairs, U.S. Department of State; and *A. Leonard Smith*, Regional Director, Economic Development Administration, U.S. Department of Commerce. Reappointments included: *Linda L. Lawson*, Director, Safety, Energy and the Environment, U.S. Department of Transportation; *Shannon H. Sorzano*, Deputy Assistant Secretary for International Affairs, U.S. Department of Housing and Urban Development; and *Rosendo Trevino, III*, State Conservationist, Natural Resources Conservation Service, U.S. Department of Agriculture.

Note of Thanks

Again this year, the Board's preparation of this Tenth Report to the President and Congress was strengthened by valuable input from a number of other border-region environmental policy officials. These contributions were greatly appreciated by the Board Members, Alternates, Resource Specialists, and Regional Office contacts (see 2006 Membership Roster).

Our thanks go to all those individuals listed below and to anyone else whose name inadvertently may have been omitted. We appreciate the value you added to the Good Neighbor Environmental Board's deliberations that led to formulating its recommendations: *Michael Hance* and *Kevin Stevens* (DHS); *Roger Di Rosa*, *Shela McFarlin*, and *Ernesto Reyes* (DOI); *David DeCarme*, *John Gray*, *Sylvia Grijalva*, *Jill Hochman*, *Bob McGuire*, *Camille Mittelholtz*, *Jeanne O'Leary*, *Bob Richard*, *Chuck Rombro*, and *Shari Schaftlein* (DOT); *Linda Chambers*, *Dave Fege*, *Valmichael Leos*, *Lorena Lopez-Powers*, *William Luthans*, *Barbara Maco*, *Yvonne Manske*, *Linda Reeves*, *Stacey Takeda*, and *Juan Zepeda Valdez* (EPA); *Raymundo Aguirre*, *Cesar Boisselier*, *Isela Canava*, *Gabriel Duran*, *Rong Kuo*, and *Jose Nunez* (IBWC-U.S. Section); *Placido dos Santos* (ADEQ); *Cindy Padilla* (NMED); *Kim Vacariu* (Wildlands Project); *Ken Wheatley* (Sony Electronics, Inc.) *Mary Miner*, *Martin Ramirez*, and *Angie Russo* (TCEQ); *Melissa Estes* (Campo Band of Kumeyaay Indians); *Desi Vela* (Ewiaapaayp Band of Mission Indians); *Nina Hapner* (Native American Environmental Protection Coalition); *Cornelius Antone* and *Lorinda Sam* (Tohono O'odham Nation).