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Agency

Office of Water
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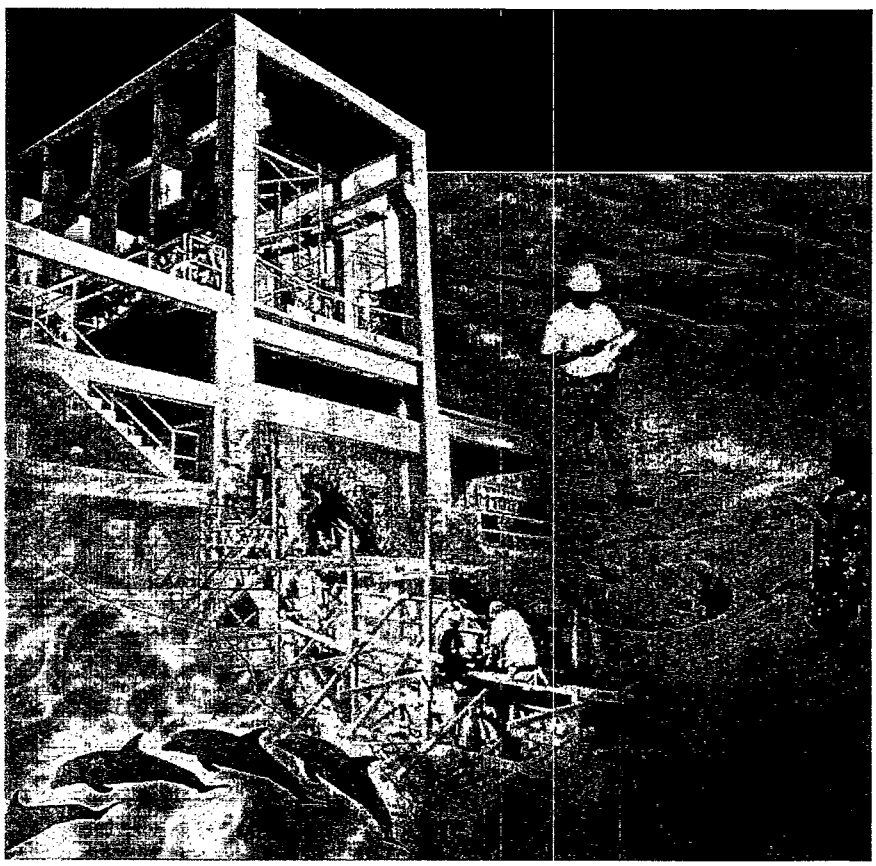
STATUS REPORT ON THE WATER AND WASTEWATER INFRASTRUCTURE PROGRAM FOR THE U.S.-MEXICO BORDERLANDS

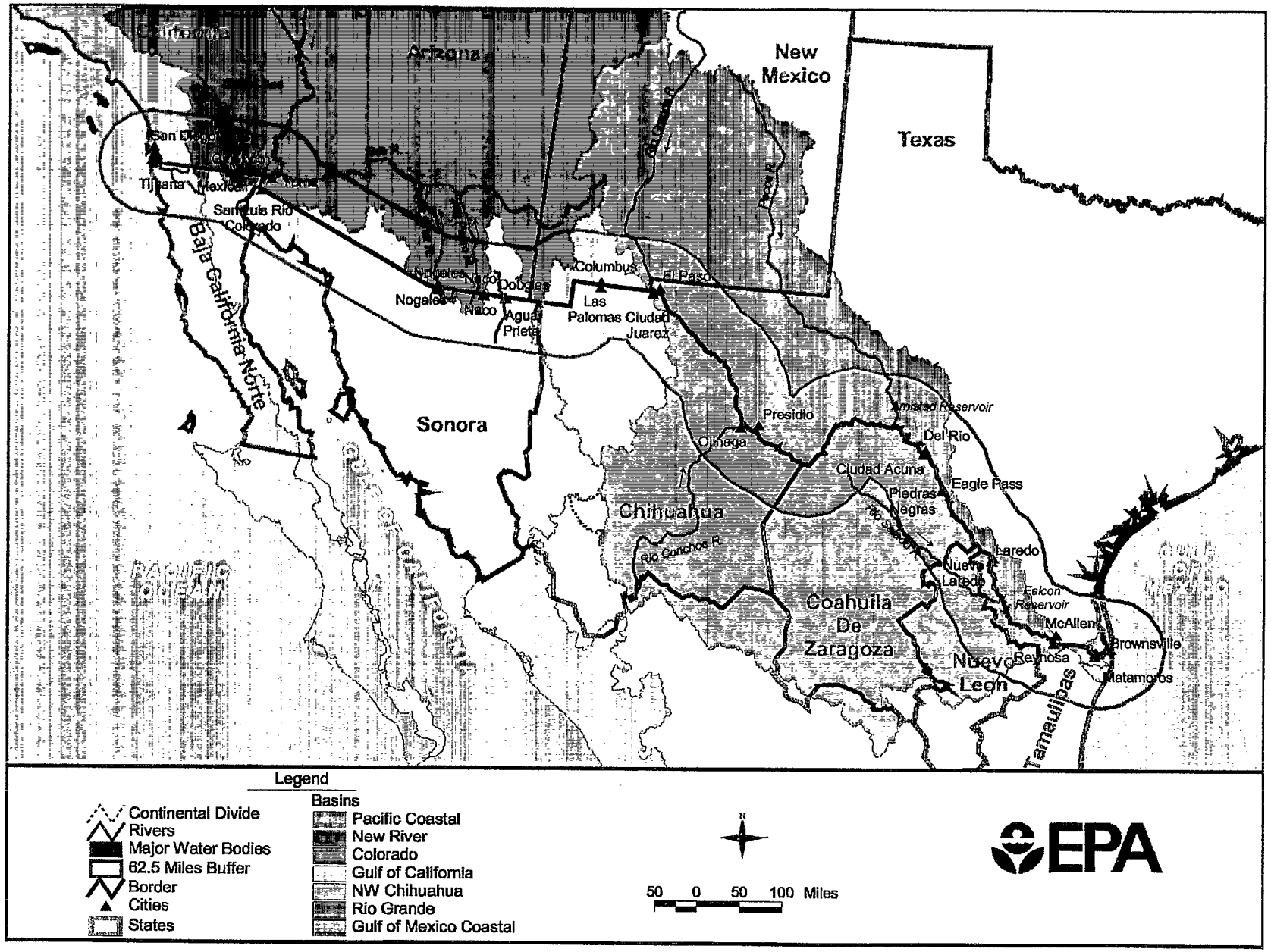


PREFACE

In the Mexican Border region, pollutants from both countries are entering shared waterways due to inadequately treated sewage. This, along with inadequately treated drinking water, is impacting the health of border residents as well as degrading environmental quality. The United States and Mexico have developed a cooperative program along the international boundary to address these issues. Through the success of cooperative efforts between the U.S. Environmental Protection Agency's Office of Water, the National Water Commission of Mexico, the binational International Boundary and Water Commission, the Border Environment Cooperation Commission and the North American Development Bank, much has been accomplished along both sides of the border. However, much remains to be done in order to ensure a safe and healthy environment for those living in the border area that depend on its water resources. This status report explores the remaining needs and identifies what has been accomplished. No one organization can achieve the results needed in this binational environment, but EPA is proud to be a member of the team that has created a positive cooperative effort and has demonstrated results. The Agency anticipates continuing to participate in these joint efforts in order to achieve its mission and fulfill its responsibilities to the people of the border area.

J. Charles Fox
Assistant Administrator
Office of Water

U.S. MEXICO BORDER WATERSHED BASINS



INTRODUCTION

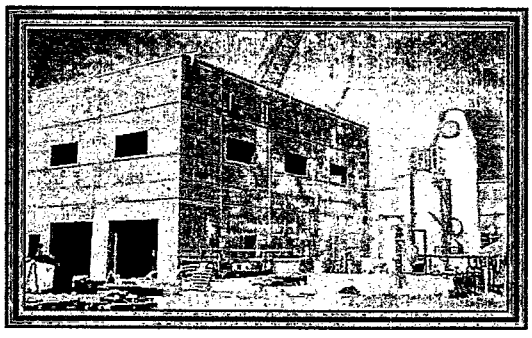
The U.S.- Mexico border region extends nearly 2,000 miles from the Gulf of Mexico to the Pacific Ocean, approximately 62 miles to the north and south of the U.S.- Mexico border. Since most of the region is arid, the shared rivers, aquifers and marine resources are extremely valuable. Population in urban centers along the border has increased significantly over the past few years, spurred by the expansion of the maquiladora sector, the relocation of industries to the area and the associated increase in jobs. Today the border region is home to about 12.4 million people. Population is projected to reach 20 million by the year 2020.

While economic activity and the border population have continued to grow at astonishing rates, the need for infrastructure has not been met at a comparable rate. This leads to deteriorated water quality and increase disease from water borne diseases. For example, Hepatitis A and Shigellosis incidence rates in the U.S. side of the border are three times what they are on average in the rest of the U.S. This report documents the progress EPA has made with its partners in providing water/wastewater infrastructure improvements for the border region and discusses the unmet needs.

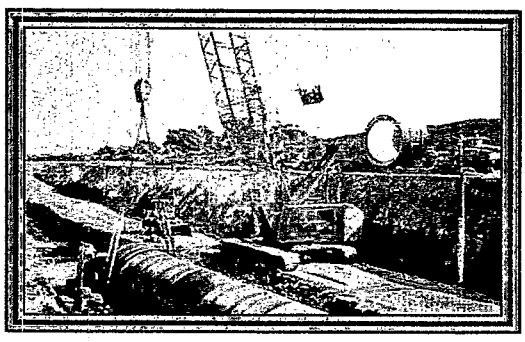
PROGRESS

EPA has been active in providing border infrastructure improvements for many years. Since 1995, EPA has collaborated with various border organizations and communities and with the Mexican Government, specifically with the National Water Commission of Mexico (CNA), to improve water supply and wastewater treatment capacity. Before 1995, most of the projects were managed by the International Boundary and Water Commission (IBWC). Projects are now being developed and certified by the Border Environment Cooperation Commission (BECC) and financed in partnership with the North American Development Bank (NADBank). Working with its various partners, the following water supply and wastewater treatment projects are moving forward in the major transboundary watersheds:

- The Pacific Coastal basin has projects in San Diego and Tijuana with a total project value of $190 million and EPA share of $86 million. Of the EPA share, $53 million was appropriated in 1995 under Section 510 of the Water Quality Act of 1987 for the International Wastewater Treatment Plant (IWTP). Most projects are under construction; however, the IWTP and outfall at San Diego are in operation.



South Bay International Wastewater Treatment Plant San Diego, CA, U.S. Headworks building and odor control equipment under construction.

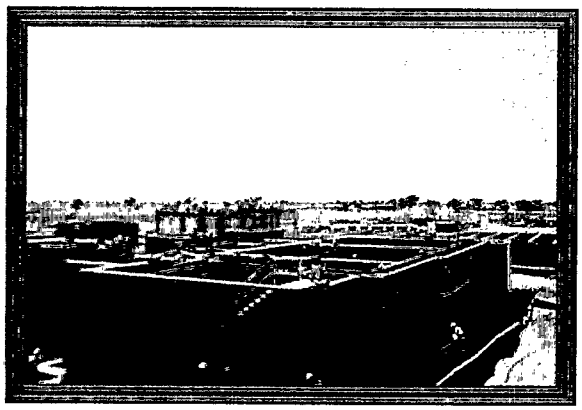


Installation of a 12' diameter effluent pipe for the South Bay International Wastewater Treatment Plant in San Diego, CA, U.S.

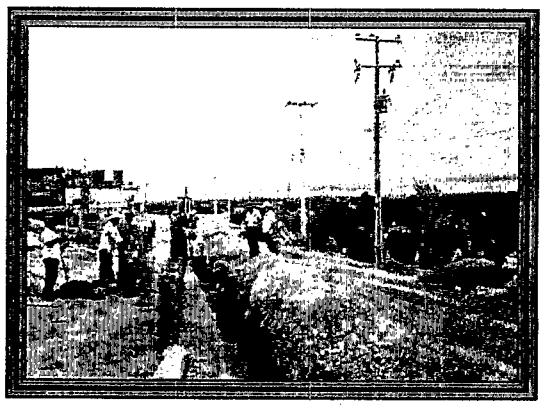
- The New River basin has projects under way in Brawley, Calexico, Heber, Mexicali and Westmorland with a total project value of $113 million and an EPA share of $58 million.

- The Colorado River Basin has a project in Naco, which is nearing completion, as well as in Nogales and Patagonia, which are just getting under way. Total project value is $60 million and EPA share is $20 million.

- The Rio Grande basin has projects in El Paso and Ciudad Juarez that are nearly operational and it also has projects in 11 communities and Colonias in various stages of completion. Total project value is $445 million and EPA share is $120 million.



South Wastewater Treatment Plant.in Ciudad Juarez, CH, Mexico.



Sewer installation in Ciudad Acuña, CO, Mexico.

- The Gulf of Mexico Coastal basin projects in Brownsville and Matamoros have recently received congressionally directed funding assistance. Total project value and EPA share are $7 million. Thewastewater treatment facility in Nuevo Laredo built by IBWC is operational.

- There is no significant EPA financial participation in projects in the sparsely populated Gulf of California Coastal or Northwest Chihuahua basins to date.

- EPA has funded a Project Development Assistance Program (PDAP) at the BECC which helps communities with engineering and project development, and also a series of municipal government capacity building initiatives at the U.S.-Mexico Foundation for Science. The total value of these activities is about $24 million.

- Federal Indian Reservation projects within 62 miles of the border, 22 in California and three in Arizona, are using $23 million of the EPA Border Infrastructure funds through grants from EPA for construction of water and wastewater infrastructure.

The project value of work under way is about $852 million, with an EPA participation of $328 million. For U.S. communities the balance is made up by U.S. State Revolving Funds, NADBank and other loans. For Mexican communities, the balance is made up by CNA and State grants, NADBank and other loans.

Some 300,000 people on the U.S. side of the border live in over 1,200 unincorporated areas in Texas and New Mexico called "Colonias," which lack adequate drinking water and wastewater collection and treatment systems. From 1995 through 1998, EPA grants to these two states, matched by state resources, provided for construction of wastewater and drinking water facilities in these communities. Many of these systems are now operational. From 1995 through 1998, $320 million was separately appropriated for the Colonias program. Further funding for Colonias will be through the BECC/NADBank process.

PROBLEMS REMAIN

Even with the progress that has been and is being made, available public health data for the border area indicate high levels of Amebiasis, Shigellosis (amoebic dysentery), Hepatitis A, and other water borne diseases that can be transmitted by use of, or contact with, untreated or poorly treated drinking water and wastewater. Disease rates are higher in the U.S. border area than in most other areas of the United States. The level of drinking water and wastewater treatment tends to be less adequate as a general matter on both sides of the border than in the rest of the U.S.

An outbreak of a disease on one side of the border threatens the other side because of migration of people across the border for a variety of reasons such as visiting family and friends, seeking employment, and/or for conducting business on the other side. Therefore, there are some commonalities shown in the health data.

The following table indicates that the current incidence rates of disease are higher on the US-Mexico border than in the rest of the U.S. demonstrating that these water borne diseases have no boundaries.

Disease	US Border Rates per 100,000 people	Mexican Border Rates per 100,000 people	US Nationwide Rates per 100,000 people
Amebiasis	**1.38**	**798.8**	**1.34**
Hepatitis A	**37.1**	**50.1**	**12.6**
Shigellosis	**35.3**	**----**	**10.9**
Typhoid fever	**0.4**	**36.1**	**0.2**

Ref. Pan American Health Organization website htpp://www.fep.paho.org/healthprofiles.

Surface water quality monitoring data exists for several of the transboundary and boundary waters including the Tijuana River, Pacific Ocean, the New River, the Colorado, San Pedro and Santa Cruz Rivers, and the Rio Grande. These data indicate high fecal coliform readings, which are indicators of untreated or partially treated wastewater still being discharged to the rivers. Improvements in water and wastewater infrastructure along the border will help reduce the disease rates. This is especially critical since population in the border area is rapidly increasing.

THE BORDER TEAM AT WORK

The responsibility to address water-related health threats and environmental impacts rests with a team of U.S. and Mexican federal government representatives from various agencies with specific responsibilities in the border area. Some have authorities going back many years and others were created specifically in response to the challenges of the worsening conditions in the border area environment. The Border Team's objective is to support the project development process with funding and technical assistance.

Shortly after completion of an agreement on environmental cooperation (La Paz Accord) in 1983, the EPA designated its Office of Water to represent it on the Border Team. The Office of Water is well equipped for this task through its previous experience in managing of a $60 billion U.S. construction grants program.

Mexico's Secretariat of the Environment, Natural Resources and Fisheries has designated its CNA as it's representative on the Border Team. The CNA has been involved historically in the funding of community drinking water and wastewater infrastructure.

The history of cooperation between the two countries on environmental issues dates back to creation of the International Boundary Commission in 1889, which in 1944 became the IBWC. The IBWC has expanded its binational cooperation role since the La Paz Accord in 1983 and has managed numerous projects for protection of the environment and public health along the border.

Under provisions of the North American Free Trade Agreement, the U.S. and Mexico entered into a bilateral agreement in November 1993 to provide a program to give border communities a greater role in determining and fulfilling their infrastructure needs. This agreement established the BECC and the NADBank. Both organizations are established under treaty, have binational status and have directors representing the two nations.

The primary role of the BECC is to provide technical assistance to border communities and to certify infrastructure projects for financing consideration by the NADBank and other sources. Certification is based on a set of environmental, health, technical, financial, community participation and sustainable development criteria, through a process that ensures extensive public input. The BECC also manages the EPA-funded PDAP to assist communities in the extensive community infrastructure planning needed for their certification applications.

The NADBank's primary role is to facilitate financing for the implementation of projects certified by the BECC. In its advisory role, the NADBank provides financial and managerial guidance to communities that may require assistance with comprehensive, long-term infrastructure planning and development. As an investment banker, it works to structure affordable and equitable financial packages by locating funding from both public and private sources including its own capital of about $3 billion, which was contributed equally by the U.S. and Mexican governments over a period of four years. The NADBank provides loans intended to fill financing gaps not covered by other sources, while its guaranties are designed to encourage financing from other lenders.

EPA and CNA funding make projects more affordable to hard-pressed communities. The NADBank administers EPA's Border Environmental Infrastructure Fund (BEIF) to supplement its loan and guaranty programs. BEIF funds are to be used as a last resort to make projects viable and affordable for border communities. Based upon actual experience on both sides of the Border to date, each dollar of EPA's BEIF funding has leveraged more than two dollars from other sources.

The Border Team supports the BECC in its project development role, creating viable and necessary projects and jointly evaluating their readiness to proceed. That, in turn, allows the funding agencies -- EPA, CNA and NADBank -- to plan their needs and activities in coordination with local and state agencies.

NEXT STEPS

Resources Still Available

The governments of the U.S. and Mexico have historically had a strong commitment to the people of the border. Some years ago, the two governments announced an interim target of $700 million each to fund construction of water and wastewater infrastructure facilities in the border area.

From FY 1995 through FY 2000, the U.S. Congress appropriated $475 million for Border Infrastructure. **EPA has used nearly all of the available funding.** As of the beginning of the third quarter of FY 2000, program actual and planned obligations from the border funds total $473 million for the various border program initiatives. This leaves an available balance of under $2 million.

The BEIF, which to date has been funded by EPA at a current and planned $252 million is now the primary grant funding mechanism used by EPA for water and wastewater infrastructure projects. These BEIF funds are part of the $473 million Border grant funds. The project certifications by BECC through March 2000 are providing subgrants with all but $50 million of these funds. This balance will not be sufficient to fully support the projects anticipated for certification in the balance of FY 2000. As noted, currently there are no additional EPA Border Infrastructure Funds to provide to the BEIF.

When U.S. funds are used to participate in Mexican community projects, they will be normally be matched by Mexican federal and state governments in an amount equal to the EPA grant funding. These projects provide a benefit for the U.S. in terms of improved water quality on boundary waters as well as those that flow into the U.S., as well as reduction of health risks to U.S. residents. EPA participation in Mexican community projects totals $107 million. To date the NADBank reports that the Mexican government has allocated over $109 million for the infrastructure projects in its border communities.

Additional Resource Needs

The President's FY2001 budget requests $100 million. About $30 million of this money would be used to start projects delayed by budget shortages in the latter part of FY2000. Given accelerated development of project plans that are now being experienced, EPA expects significant

shortfalls of sufficient funds in future years assuming funding at historic levels. These shortfalls will delay infrastructure construction of water and wastewater treatment plants, further impacting the ability to protect public health and improve the surface water quality in the border region.

The BECC technical director and project managers have developed profiles for each community where there are specifically known near-term needs. Because these generally reflect a known deficiency or potential health or environmental hazard, the near-term is considered the time frame within which municipal officials can implement a project development process. Projects which have been certified by the BECC and are being readied for construction and have identified financing are not included in the table below as near-term needs.

Completing funding of the interim $700 million target will not provide complete and adequate up-to-date water and wastewater facilities for the border communities now or provide for growth in those communities. Therefore, EPA has developed an additional long-term needs estimate by community, which includes growth, and is based on the commonly used public works planning period of 20 years. These long term needs are estimated to total over $3.8 billion, with a large portion being on the Mexican side. Current experience shows that the EPA share of these needs will range between 25 and 50 percent of total project costs.

These needs, summarized by watershed, are as follows:

	Near Term Needs ($million)			Long Term Needs ($million)		
Basin	**U.S.**	**Mexico**	**Total**	**U.S.**	**Mexico**	**Total**
Pacific Coastal	95	26	121	232	593	825
New River	37	4	41	123	85	208
Gulf of California Coastal	0	26	26	0	162	162
Colorado River	133	51	184	216	222	438
NW Chihuahua	1	4	5	19	122	141
Rio Grande	42	221	263	517	1065	1,582
Gulf of Mexico Coastal	16	34	50	229	219	448
Total	324	366	690	1336	2468	3,804

A full status report providing additional detail on these findings will be released in June 2000 and can be obtained from the following source:

U.S. EPA. Headquarters
Office of Water Resource Center (RC-4100)
1200 Pennsylvania Avenue, Ariel Rios Building
Washington, D.C. 20460
Tel. (202) 260-7786 e-mail center.water-resource@epa.gov

Acronyms used in this report:

Border Environment Cooperation Commission (BECC)
Border Environmental Infrastructure Fund (BEIF)
Environmental Protection Agency (EPA)
National Water Commission of Mexico (CNA)
International Boundary and Water Commission (IBWC)
International Wastewater Treatment Plant (IWTP)
North American Development Bank (NADBank)
Project Development Assistance Program (PDAP)