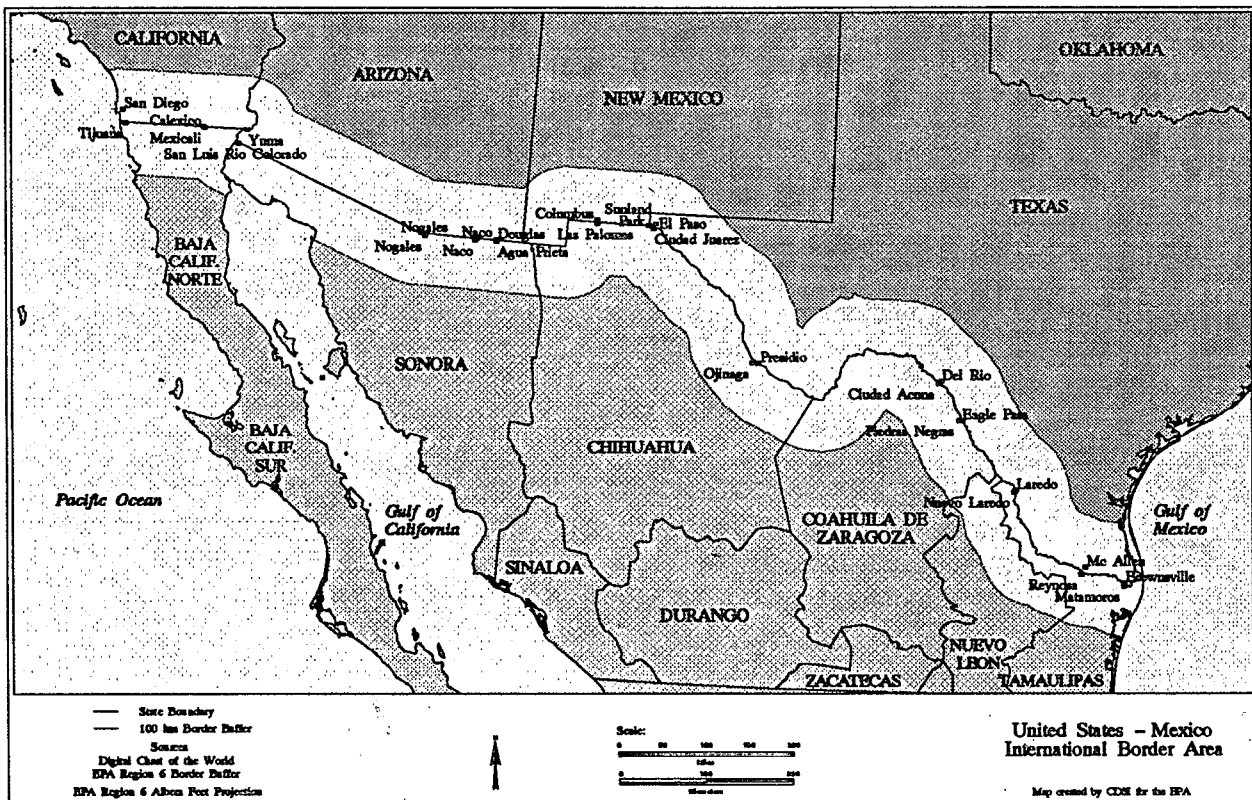


U.S.-MEXICO BORDER XXI PROGRAM 1998 IMPLEMENTATION PLANS

EPA 160-R-98-003

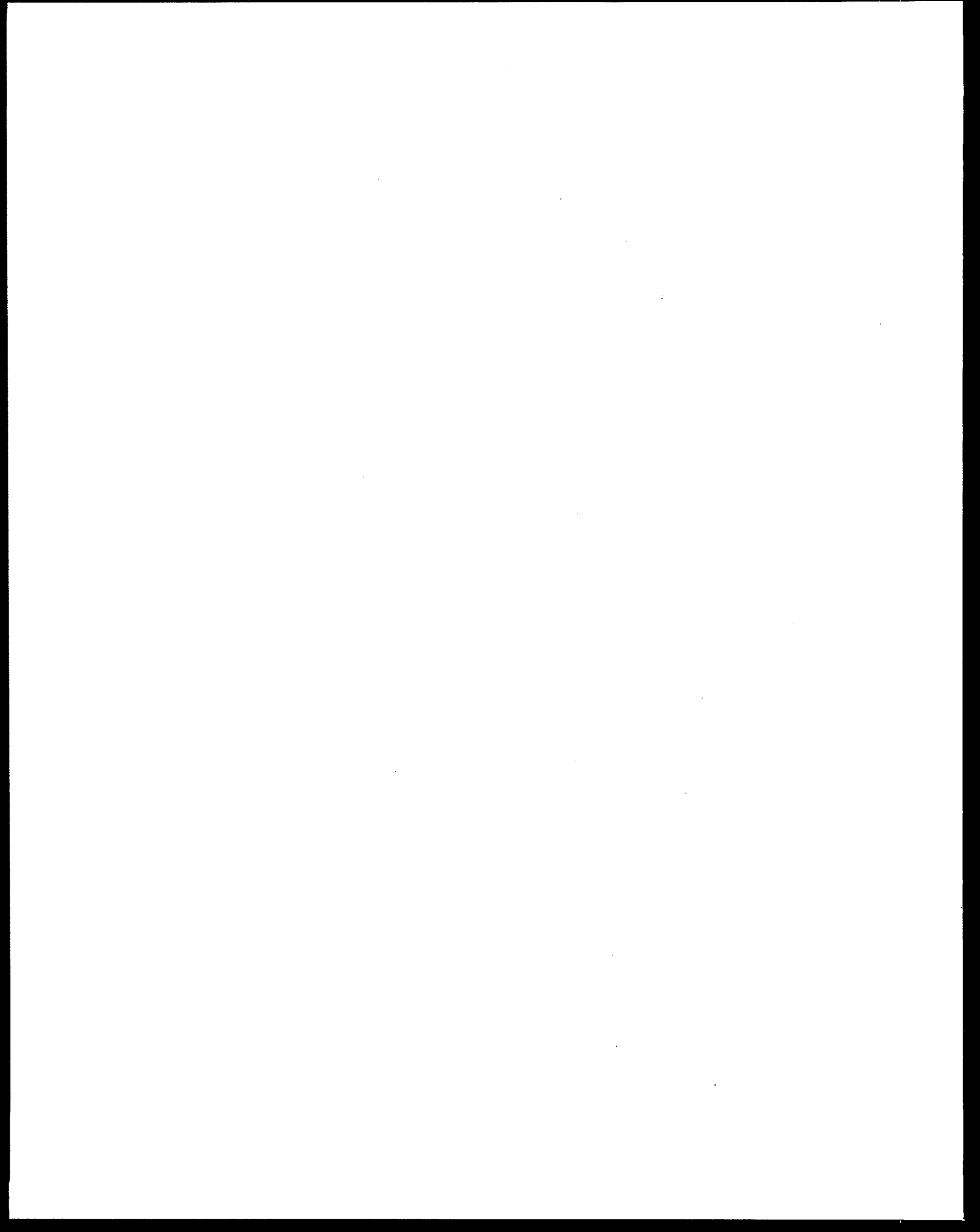


* Environment * Natural Resources * Environmental Health *



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INTRODUCTION

The Border XXI Program is an innovative binational effort which brings together the diverse U.S. and Mexican federal and state entities responsible for the shared border environment to work cooperatively toward protection of human health and the environment as well as proper management of natural resources in each country. The *Border XXI Framework Document* (*Framework Document*) is a product of broad public input which defines five-year objectives for the border environment and describes mechanisms for fulfilling those objectives by facilitating federal, state and local involvement.

Nine binational Workgroups implement the Border XXI Program by integrating the efforts of participating entities and defining specific projects to meet Border XXI objectives. Each Workgroup is lead by a U.S. and Mexican Co-Chairperson. The Workgroups ensure effective coordination of bilateral efforts by bringing together representatives from federal and state agencies from both countries with a wide array of environmental interests and perspectives. The Workgroups have developed or are in the process of exploring the development of subgroups and other mechanisms to assure the participation of tribal and other border communities in implementation of the Program.

The Border XXI Workgroups are:

- Air
- Contingency Planning and Emergency Response
- Cooperative Enforcement and Compliance
- Environmental Health
- Environmental Information Resources
- Hazardous and Solid Waste
- Natural Resources
- Pollution Prevention
- Water

These nine Workgroups meet individually as necessary and convene as a whole at least once a year.

The *Border XXI Program 1998 Implementation Plans* reflects the United States' and Mexican governments' continuing efforts and commitment to provide the public with information on projects that will advance the long-term objectives outlined in the *Framework Document*, based on federal funding levels for a given year.

The 1998 Implementation Plans include a complete and updated list of projects for eight of the nine workgroups. All of the Natural Resources workgroup projects are in addition to those listed

in the 1997-1998 Implementation Plans. The Border XXI Program 1998 Implementation Plans has a new format. This new format includes the following: 1) Total extramural money for 1998; 2) Start and closing dates; 3) Project purpose; 4) Project description 5) Accomplishments for 1997; 6) Expected outcome(s) for 1998; 7) Project contacts; and, 8) Participants for each project. This eliminates a separate chapter for the previous year's accomplishments for 1997.

The *1998 Implementation Plans* also provides a glossary with a list of acronyms used in the document (pg. 177).

Additional information about these activities and future projects is available directly from the contacts listed and can be obtained through correspondence, telephone calls, or electronic mail messages. In addition, a list of Workgroup contacts with addresses and telephone numbers is included in the Directory of Contacts (pg. 187). Individuals who are on public advisory boards, such as the Good Neighbor Environmental Board or the Joint Advisory Committee for the Improvement of Air Quality in the El Paso, Texas, Ciudad Juarez and Doña Ana County Air Basin may also be contacted.

For further information on the Border XXI Program or other border activities please call 1-800-334-0741 or visit the U.S.-Mexico Home Page at <http://www.epa.gov/usmexicoborder>.

**AIR WORKGROUP
1998 IMPLEMENTATION PLANS**

Air Workgroup 1998 Implementation Plans

Agua Prieta-Douglas Air Programs

Total Extramural \$\$ 1998: \$50,000.00

Start Date: 1996

Completion Date: 1999

Project Purpose:

Complete a particulate (PM-10)-air toxics study with an overall goal of determining ambient air pollutant concentrations, apportioning sources and their relative impacts, recommending cost-effective control strategies, and measuring progress/compliance with the national air quality standards of each country.

Project Description:

A total of four sites measuring PM-10, selected air toxics, and meteorological parameters will be cited on both sides of the border. An emissions inventory will be developed early 1999 and sampling will run from March 1998 through March 1999. Subsequent to the completion of these activities, a draft final report will be prepared by June 1999 and will include exposure-risk assessment, source attribution, and potential control strategies. A final report is scheduled for completion by August 1999.

Accomplishments 1997:

The project was delayed due to delays in Ambos Nogales particulate-air toxics study.

Expected Outcome(s) for 1998:

Siting of the Air Monitoring Stations.

Project Contact(s):

Gerardo Monroy, ADEQ, (520) 628-6732

Cesar Catalan, INE - Sonora, 52-62-13-5229

Gerardo Rios, EPA Region 9, (415) 744-1259

Victor Hugo Paramo, INE - Ciudad de Mexico, 011-525-624-3450

Participant(s):

Instituto Nacional de Ecología (INE), Delegacion Sonora de la Secretaria de Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP), EPA, ADEQ, the state of Sonora, the city of Douglas, and the city of Agua Prieta.

Ambos Nogales Air Programs

Total Extramural \$\$ 1998: \$50,000.00

Start Date: 1994

Completion Date: 1998

Project Purpose:

Based on the results of the particulate (PM-10)-air toxics study, recommend cost effective control strategies and continue base monitoring to measure progress/compliance with the national air quality standards of each country.

Project Description:

A total of six sites measuring PM-10, PM-2.5, and meteorological parameters, as well as four air toxics sites measuring selected air toxics, operated on both sides of the border for one year. All sites ran on a winter-intensive (1 in 3-day cycle) sampling schedule from October 1994 through March 1995, and subsequently returned to the regular (1 in 6-day cycle) sampling schedule. The large-scale monitoring portion of the study has terminated, although one base site will continue operating on each side of the border for ongoing measurement of PM-10, PM-2.5 and meteorological parameters. Emissions inventory has been developed.

Accomplishments 1997:

An initial report was prepared by November 1997. However, this report did not include exposure/risk assessment, source attribution, and potential control strategies.

Expected Outcome(s) for 1998:

A final report should be ready by July 1998, and it will include exposure/risk assessment, source attribution and potential control strategies.

Project Contact(s):

Gerardo Monroy, ADEQ, (520) 628-6732

Cesar Catalan, INE - Sonora, 52-62-13-5229

Gerardo Rios, EPA Region 9, (415) 744-1259

Victor Hugo Paramo, INE - Ciudad de Mexico, 011-525-624-3450

Participant(s):

Instituto Nacional de Ecología (INE) and Delegacion Sonora de la Secretaria de Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP), EPA, ADEQ, the state of Sonora, the city of Nogales, Sonora, and the city of Nogales, Arizona.

Big Bend Air Quality

Total Extramural \$\$ 1998: \$800,000.00

Start Date: 1993

Completion Date: 2005

Project Purpose:

Determine the likely impact of pollution sources on visibility at Big Bend National Park.

Project Description:

Big Bend National Park is a Class I area, where federal land managers and the EPA are required to protect scenic vistas from the degradation of visibility. Visibility is the ability to see the color, shape, contrast, and texture of a landscape or city skyline. The EPA, the National Park Service, and PROFEPA are working to identify significant trends in air quality and visibility, identify industrial and commercial air pollution sources that degrade air quality, and design a strategy to reduce air pollution from sources compromising air quality and visibility.

Accomplishments 1997:

NPS and PROFEPA (Mexico's Attorney General for the Environment) completed an initial study in the fall of 1996. At the National Coordinator's meeting in 1997, Mexico made public statements committing to a comprehensive study planned for summer and winter in 1998-1999. Mexico and the U.S. are working in parallel to analyze the data, and are holding a series of meetings to discuss the data analyses on the data collected during the 1996 field study.

Expected Outcome(s) for 1998:

Final report on the 1996 field study (available to the public). Final workplan for any follow-up field work. Follow-up field work has been postponed to summer of 1999.

Project Contact(s):

Miguel Flores, NPS-Denver, (303) 969-2072

Alfredo David Gidi, PROFEPA

Jim Yarbrough, EPA Region 6, (214) 665-7232

Participant(s):

NPS, Procuraduría Federal de Protección al Ambiente (PROFEPA), Texas Natural Resource Conservation Commission (TNRCC), U.S. Environmental Protection Agency

Border Vehicle Congestion

Total Extramural \$\$ 1998: \$105,000.00

Start Date: 1997

Completion Date: 1999

Project Purpose:

In response to draft comments on Border XXI, the Air Workgroup acknowledges the need to create a subgroup on Border Vehicle Congestion and air quality. The Border Vehicle Congestion Subgroup will recommend possible ways to reduce vehicular congestion along the US-Mexico Border and, thus, reduce vehicular air emissions within the border region.

Project Description:

The Binational Air Workgroup will support the development of a subgroup on Border Congestion to review ongoing efforts and make recommendations on innovative ways to reduce air pollution attributable to congestion at border crossings. The subgroup will involve participation from a wide variety of governmental (e.g., DOT, EPA, INE, Customs, state, local) and non-governmental entities (e.g., private sector, NGOs, academia).

Accomplishments 1997:

A draft workplan was drafted by the Western Governors Association.

Expected Outcome(s) for 1998:

The Subgroup will convene several times this year to finalize the workplan.

The Subgroup will convene several times this year to begin evaluating pollution reduction options.

Recommendations will be due back to the workgroup by early 1999.

Project Contact(s):

John Leary, WGA (303) 623-9378

Victor Hugo Pàramo, INE-Mèxico City, 52-56-24-3450

Gerardo Rios, EPA-Region 9, (415) 744-1259

Participant(s):

EPA, INE, WGA plus representatives from other federal, state and local government institutions, NGOs, industry, and academia.

Brownsville /Laredo Air Programs

Total Extramural \$\$ 1998:

Start Date: 1996

Completion Date: ongoing

Project Purpose:

Develop and operate monitoring station networks in Brownsville and Laredo for nitrogen oxides, ozone, carbon monoxide, sulfur dioxide, particulate (PM-10), lead, pesticides, and meteorological parameters (e.g., wind speed/wind direction). These efforts are designed to acquire better baseline air quality information for these cities.

Project Description:

Given the physical, demographic, vehicular traffic, and industrial characteristics of the Brownsville-Matamoros and Laredo-Nuevo Laredo air basins, there is an immediate need to evaluate levels of targeted air pollutants. Annex V to the 1983 La Paz agreement directs EPA and Instituto Nacional de Ecología (INE) to assess the causes of and develop solutions to air quality problems in border sister cities.

The EPA is sponsoring monitors in both communities. In Brownsville and Laredo, TNRCC operates a monitoring device for polyaromatic hydrocarbons, ozone, carbon monoxide, volatile organic compounds, lead, arsenic, and meteorological data. The EPA, TNRCC, and NMED will discuss the addition of a monitor in another border city where little or no monitoring is currently taking place..

Accomplishments 1997:

The TNRCC has collected the data and reported it into the EPA AIRS system for review and retrieval.

Expected Outcome(s) for 1998:

Continued operation of the air monitoring network.

Project Contact(s):

Stuart Dattner, TNRCC

Matthew Witosky, EPA Region 6, (214) 665-7214

Participant(s):

EPA, TNRCC

California - Baja California Intensive Air Quality Monitoring Study

Total Extramural \$\$ 1998: \$435,000.00

Start Date: 1997

Completion Date: 1998

Project Purpose:

To undertake special monitoring study to provide the additional information required for the development of ozone, particulate matter and carbon monoxide attainment plans in the California - Baja California Border Region. In addition, the study will generate the data that will be used to integrate the northern Mexico border region into the Southern California Ozone Study.

Project Description:

To verify and assess the emission inventories under development for Baja California, CARB will undertake a meteorological and air quality study that will supplement the data from existing networks in Tijuana and Mexicali. The first phase will provide an ambient hydrocarbon and meteorological data set that will allow the use of source/receptor type mathematical models for estimating uncertainties in the emissions inventory. The second phase will provide additional upper-air meteorological measurements that will allow the area of Baja California to be integrated into the Southern California Ozone Study. The primary objective of the Southern California Ozone Study is to develop a meteorological and air quality data set that will be used to exercise a regional photochemical model.

A detailed breakout of costs is currently available along with a more detailed project proposal. The total cost is at the same level as other similar field studies and in proportion to the costs of larger field studies (e.g., El Paso-Juarez-Sunland Park Summer Ozone Study).

Accomplishments 1997:

The California-Baja California Technical Sub-workgroup of the Binational Air Workgroup has met regularly to discuss the project. The summer ozone monitoring data collection was completed.

Expected Outcome(s) for 1998:

CARB will provide a report on its findings for Phase I of the study. CARB will perform Phase II of the study, which includes an inventory of mobile source emissions along the California - Baja California Border.

Project Contact(s):

Mark Fuentes, CARB, 619-645-5233;

Air Workgroup 1998 Implementation Plans

Rene Mendivil, SEMARNAP - Baja CA, 52-65-52-4987;
Victor Hugo Paramo, INE - Ciudad de Mexico, 011-525-624-3450
Gaspar Torres, Imperial APCD - 619-339-4606
Dan Speer, San Diego APCD - 619-694-3311
Gerardo Rios, EPA Region 9, (415) 744-1259

Participant(s):

Primary U.S. partners are EPA, CARB, the San Diego Air Pollution Control District, and the Imperial Valley Air Pollution Control District, and the Western Governors Association.

Primary Mexican partners are Instituto Nacional de Ecología (INE), Delegacion Baja California de la Secretaria de Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP).

CICA - U.S.- Mexico Information Center on Air Pollution

Total Extramural \$\$ 1998: \$120,000.00

Start Date: 1996

Completion Date: ongoing

Project Purpose:

The center (CICA) provides Mexican federal, state and local environmental officials and universities working along the U.S.- Mexico border with access to pertinent information related to assessment of air pollutant emissions, ambient monitoring, dispersion modeling, and control technologies and pollution prevention programs that will aid in achievement of emission reductions.

Project Description:

The CICA capabilities include: access to EPA technical expertise through a bilingual (Spanish/English) information line (toll-free for Mexico); fully functional World Wide Web Home Page; technical assistance, including EPA contractor support, on air-related problems; Spanish-language versions of technical documents and air quality models; maintenance and improvements to the U.S.-Mexico ambient air quality monitoring clearinghouse (in conjunction and integrated with the CICA Home Page); answer technical questions and provide information and access to CATC products, services and data bases.

Accomplishments 1997:

* Issued final report: "Air Emissions from Scrap Tire Combustion;" EPA-600/R-97-115 (English)

* Issued final report: "Ambient Air Monitoring Plan for Ciudad Acuña and Piedras Negras, Coahuila, Mexico;" EPA-456/R-98-001 (English) and EPA-456/R-98-002 (Spanish)

Expected Outcome(s) for 1998:

Issue final Spanish versions of SCREEN3 and ISCLT3 air quality dispersion models.

Issue final report: "Air Emissions from Scrap Tire Combustion;" EPA-600/R-97-115 (Spanish)

Complete report "Technical Basis for Appendices to Annex IV of the La Paz Agreement".

Initiate laboratory study and testing: "Emissions from Street Vender Cooking Devices".

Initiate study with EPA Region VI: "Evaluation of Emission Reductions for Point, Area and Mobile Source Emissions in Ciudad Juarez, Mexico".

Initiate grant through EPA Region VI to the Texas Natural Resource Conservation Commission for: "Ciudad Juarez Multi-Modal Transportation Study, Phase II".

Initiate a grant through EPA Region IX to the Western Governors Association: "Ambient Air Quality Monitoring for Tecate".

Project Contact(s):

Air Workgroup 1998 Implementation Plans

Bob Blaszcak - EPA, OAQPS (919) 541-5432/blaszcak.bob@epamail.epa.gov

Rosalina Rodriguez, EPA/OAQPS - (919) 541-5298/Rodriguez.rosalina@epamail.epa.gov

Jaime Mendieta -EPA, OAQPS (919) 541-0547/mendieta.jaime@epamail.epa.gov

CICA Home Page- <http://www.epa.gov/oar/oaqps/cica/>

CICA Hotline - From Mexico Toll-Free (800) 304-1115

From all other locations (919) 541-1800 FAX - (919) 541-0242

Victor Hugo Paramo, INE-Mexico City, 52-56-24-3450/vparamo@chajul.ine.gob.mx

Participant(s):

INE, EPA, and others depending on project.

Ciudad Juarez- El Paso - Sunland Park Air Quality Study

Total Extramural \$\$ 1998:

Start Date: 1986

Completion Date: 2005

Project Purpose:

Achieve the National Ambient Air Quality Standards (NAAQS) on the U.S. side, and the Mexican Official Norms on Air Quality in the Mexican side of the Ciudad Juarez, Sunland Park, and El Paso region. Provide technical assistance and cooperation to enhance the ability of the state, local and federal governments to improve air quality in the region.

Project Description:

The EPA and SEMARNAP are charged with the leadership role of attaining the air quality standards in the Ciudad Juarez, El Paso, and Sunland Park air basin. The regional geographic features of the "Paso del Norte" area require a coordinated effort among federal, state, and local officials charged with regulatory responsibility to improve air quality. The U.S. and Mexico are basing their activities on the U.S. model of gathering actual meteorological data, gathering information on emissions in an inventory format, and using computer analysis to recreate the pollution dispersion and photochemical pollution formation processes. The EPA and SEMARNAP will use these analytical tools to design a control strategy to improve air quality across the binational air basin.

Accomplishments 1997:

The EPA and SEMARNAP conducted an intensive ozone study throughout the airshed (in all three cities of the area) in the summer of 1996. The contractor for the subgroup completed final reports on data collected and analyses performed. The subgroup acquired computer equipment and contractor support to perform Urban Airshed Modeling for the entire basin, when data gathering and data preparation is complete during 1998.

Expected Outcome(s) for 1998:

A final, peer-reviewed report will be complete during 1998, as will a chemical mass-balance analysis of the monitoring study. The EPA and SEMARNAP personnel will be trained in the use of the UAM-V/CAMX urban airshed models. The EPA, SEMARNAP and local officials are working to consolidate the data gathering operations from the binational network during 1997. The subgroup will prepare data for computer modeling analysis for the binational air basin. Statistical analysis and modeling will begin.

Project Contact(s):

Jim Yarbrough (EPA-Region 6), (214) 665-7232

Matthew Witosky (EPA-Region 6), (214) 665-8015

Air Workgroup 1998 Implementation Plans

Victor Hugo Paramo, (INE), 011-525-624-3450

Luis Raul Cordova (SEMARNAP-Chihuahua),

Cecilia Williams, (NMED), (505) 827-0042

Archie Clouse (TNRCC), (915) 778-9634

Jesus Reynoso (City of El Paso), (915) 771-5816 Oscar Ibanez (City of Juarez)

Diana Borja (TNRCC), (512) 239-10

Participant(s):

INE, SEMARNAP - Chihuahua, TNRCC, Cd. Juarez, El Paso, Chihuahua, EPA, NMED

Energy and Air Quality

Total Extramural \$\$ 1998: \$50,000.00

Start Date: 1997

Completion Date: 1999

Project Purpose:

In response to draft comments on Border XXI, the Air Workgroup acknowledges the need to create a subgroup on Energy and Air Quality. The Subgroup will recommend opportunities to conserve energy, increase energy efficiency, and reduce air pollution within the border region.

Project Description:

The Binational Air Workgroup will support the development of a subgroup on Energy and Air Quality to review ongoing efforts and make recommendations on innovative ways to promote energy efficiency and the increased use of renewable energy sources in the border region. The subgroup will involve participation from a wide variety of governmental (e.g., DOE, EPA, INE, PEMEX, CFE, state, local) and non-governmental entities (e.g., private sector, NGOs, academia).

Accomplishments 1997:

The Subgroup was initiated by the Binational Air Workgroup in February 1997. The Subgroup met twice and a draft workplan outline was developed for the Subgroup.

Expected Outcome(s) for 1998:

The Subgroup will convene several times this year to finalize the workplan.

The Subgroup will convene several times this year to begin evaluating pollution reduction options.

Recommendations will be due back to the workgroup in calendar year 1999.

Project Contact(s):

John Leary, WGA (303) 623-9378

Victor Hugo Pàramo, INE-Mèxico City, 52-56-24-3450

Gerardo Rios, EPA-Region 9, (415) 744-1259

Participant(s):

EPA, INE, WGA plus representatives from other federal, state and local government institutions, NGOs, industry, and academia.

Mexicali - Imperial Valley Air Programs

Total Extramural \$\$ 1998: \$268,000.00

Start Date: 1995

Completion Date: ongoing

Project Purpose:

Continue operation of monitoring network Mexicali for nitrogen oxides, ozone, carbon monoxide, sulfur dioxide, particulates (PM-10), lead, selected airborne toxic compounds, and meteorological parameters (e.g., wind speed/wind direction). In addition to the monitoring efforts, emissions inventory work is underway in this area. These efforts are intended to lay the foundation for an air quality management program with overall goals of determining ambient air pollutant concentrations, apportioning sources and their relative impacts, recommending cost effective control strategies, and measuring progress/compliance with the air quality standards of each country.

Project Description:

The Mexicali - Imperial Valley project represents a continuation of efforts to operate the Mexicali air monitoring network, analyze samples, quality assure data, and provide technical support. Emissions inventory work is based on the recently developed Mexican emissions inventory methodology (See "Emissions Inventory Methodology Pilot Project"). The methodology identifies the most appropriate emissions estimation methods by individual source type for point area, motor vehicle, and natural sources.

Accomplishments 1997:

The California - Baja California Technical Sub-workgroup of the Binational Air Workgroup met regularly to discuss the projects and contractors provided technical support in the installation, operation and maintenance of the network as well as the development of an emissions inventory.

Expected Outcome(s) for 1998:

Continued operation of the air monitoring stations. Initiate training and infrastructure for INE and/or local government to begin phasing into the operation and maintenance of the network. A total of \$36,000 were allocated FY 98 to begin this process both in Mexicali and Tijuana. The Air Workgroup expects to complete the first emissions inventory for Mexicali by the end of calendar year 1998 (See "Emissions Inventory Methodology Pilot Project").

Project Contact(s):

Mark Fuentes, CARB, 619-645-5233
Rene Mendivil, SEMARNAP - Baja CA, 52-65-52-4987
Oralia Lopez, ITT - 52-66-21055 ext. 252

Air Workgroup 1998 Implementation Plans

Gaspar Torres, Imperial APCD, 619-339-4606

Victor Hugo Paramo, INE - Ciudad de Mexico, 011-525-624-3450

Gerardo Rios, EPA Region 9, (415) 744-1259

Participant(s):

Primary U.S. partners are EPA, CARB, the San Diego Air Pollution Control District, the Imperial Valley Air Pollution Control District, and the Western Governors Association.

Primary Mexican partners are Instituto Nacional de Ecología (INE-Mexico City), Delegacion Baja California de la Secretaria de Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP), and the Tijuana Technical Institute (ITT).

Mexico's Air Pollution Training Program

Total Extramural \$\$ 1998:

Start Date: 10/01/94

Completion Date: 1999

Project Purpose:

Build infrastructure and expertise in Mexico to deliver needed air quality management training in an efficient and coordinated manner.

Project Description:

The UTA is assisting INE and its designated institutions (1) to design, develop and implement an air pollution training needs assessment; and (2) to establish Mexico's air pollution training program. The first element will identify the current and future training needs of federal, state and municipal air quality management staff in five cities along the border (Tijuana, Nogales, Ciudad Juárez, Ciudad Acuña and Matamoros). The second element will identify and develop needed infrastructure to efficiently prepare and deliver air quality management training in Mexico. Mexico's air pollution training program will be supported by 3 border regional training centers that will serve as main sources for training development activities, depositories for environmental training materials, training sites and satellite downlink sites.

Accomplishments 1997:

The air pollution training needs assessment report and the training program blueprint document are complete. A discussion of the two documents was held during the March 1996 National Coordinator's Meeting in El Paso, Texas. INE, ITT, UTA, and EPA inaugurated the First Regional Environmental Center at the ITT in April 1996 with the delivery of the Control of Particulate course. The second center at the Instituto Tecnológico de Cd. Juárez was inaugurated in August 1996 and the Emissions Inventory course was delivered as part of the inauguration activities. Prior to delivery, both courses were translated, adapted, and pilot tested in Mexico City by the UAM-Azc and INE. Finally, the training resources identification project was completed by UTA. Control of Particulates course was delivered in Cd. Juarez in June, 1997. Finalized needs survey results.

Expected Outcome(s) for 1998:

Training activities and capacity building for FY98 will be directed toward the Cd. Juárez area in coordination with implementation of the Air Quality Plan for Cd. Juárez. Priority areas for course development and delivery will be identified by INE. Complete adaptation and translation into Spanish of Control of Gaseous Emissions course.

Project Contact(s):

Lourdes Morales, EPA-OAQPS, (919) 541-4940/morales.lourdes@epamail.epa.gov

Air Workgroup 1998 Implementation Plans

Victor Hugo Páramo, INE-Mexico City, 52-56-24-3450/vparamo@chajul@ine.gob.mx

Participant(s):

In the United States: EPA Office of Air Quality Planning and Standards (OAQPS), EPA Regions 6 and 9, EPA Office of International Activities (OIA), and University of Texas at Arlington (UTA). In Mexico: Instituto Nacional de Ecología (INE), Procuraduría Federal de Protección al Ambiente (PROFEPA), Universidad Autónoma Metropolitana de Azcapotzalco (UAM-Azc), Instituto Tecnológico de Tijuana (ITT) and Instituto Tecnológico de Cd. Juárez (ITJ).

Mexico Emissions Inventory Development Program

Total Extramural \$\$ 1998: \$257,000.00

Start Date: 1996

Completion Date: ongoing

Project Purpose:

Build the capacity in Mexico for the development of emissions inventories that can be used by both countries for binational air programs. These emissions data will provide Mexico with a better understanding of its own air pollution sources and thus form the basis for developing an emissions control program. They will also enhance the U.S. air quality planning process.

Project Description:

The follow-up body to the Grand Canyon Visibility Transport Commission and Mexico have common needs for developing emissions inventory information. The GCVTC follow-up body is sponsoring projects to develop an emissions inventory for areas, including Mexico, that potentially contribute to regional haze on the Colorado Plateau. Mexico is conducting a variety of air quality planning efforts that will benefit from countrywide emission information.

Accomplishments 1997:

The final implementation plan for the methodology was developed. Training course materials and inventory manuals are being prepared. Training was delivered in Juarez (August 1996) and Tijuana (November 1996). Technical studies have been planned and will consist of five parts: special studies and refinement of inventory methodology; methodology testing; validation of emission estimates; emission factor applicability to Mexico; and uncertainty analysis. Pilot implementations were planned for Mexicali and Tijuana. The pilot program for Mexicali is currently being implemented. The pilot implementation for Tijuana will begin in the last quarter of calendar year 1998. The following manuals were completed: Fundamentals, Basic Emission Estimating Techniques, Point Sources, Area Sources, Motor Vehicles, Advanced Training Workbook. Also, the prototype to the point source questionnaire was completed.

Expected Outcome(s) for 1998:

Additional training manuals will be developed this year both in English and in Spanish. The Mexicali Emissions Inventory Pilot Project will provide the necessary information to refine the manuals further and allow the creation of a train the trainers manual. The database options analysis is expected to be completed this summer. The workplan for the Mobile Source Studies and the development of a Mobile-Mexico Model are expected to be completed this year. The implementation of these workplans is expected to be completed in late 1998, or early 1999. The Tijuana emissions inventory pilot implementation will begin in the last quarter of calendar year 1998.

Air Workgroup 1998 Implementation Plans

Project Contact(s):

John Leary, WA (303) 623-9378

Victor Hugo Páramo, INE - México City, 52-56-24-3451

Gerardo Rios, EPA-Region 9, (415) 744-1259

Participant(s):

EPA, SEMARNAP, INE, WGA, Border States and municipalities

The Joint Advisory Committee to the La Paz Air Work Group

Total Extramural \$\$ 1998:

Start Date: November 1997

Completion Date: November 1998

Project Purpose:

The Joint Advisory Committee is a panel of governmental and non-governmental stakeholders. The Committee is to advise and provide recommendations to the Air Work Group, as the Air Work Group devises a binational strategy to improve air quality in the El Paso, Juarez, and Sunland Park air basin under Annex V.

Project Description:

Appendix I to Annex V of the La Paz Agreement created a joint citizens advisory committee to provide official recommendations from a public body to the La Paz Air Work Group. Composed of ten members from each country, the group will promote widespread community involvement in the implementation of innovative, cost-effective air quality solutions. The JAC has made a series of recommendations to the Air Work Group to reduce emissions throughout the air shed. The Joint Advisory Committee is also a liaison among federal agencies, state agencies, and the community to develop solutions to pernicious air quality problems.

Accomplishments 1997:

The JAC has recommended that the Air Work Group take actions on oxygenated fuel, vehicle inspection and maintenance programs, and the use of supplemental environmental projects. The JAC has held 5 meetings to date, and is now drafting a Strategic Plan to guide the activities of the JAC in selecting recommendations for the Air Work Group.

Expected Outcome(s) for 1998:

The Committee is drafting a strategic plan to guide the Committee in selecting what critical air pollution sources must be addressed, and how the recommendations should be presented to the Air Work Group. The strategic plan would also be used by the Air Work Group in designing a comprehensive air quality improvement plan.

Project Contact(s):

Matthew Witosky, EPA Region 6, (214) 665-8015.

Victor Valenzuela, TNRCC Region 6 (El Paso) 915-778-9634

Dr. Victor Hugo Paramo, INE - Mexico City, 52-56-24-3451

Participant(s): TNRCC, NMED, Environmental Defense Fund, Instituto Nacional de Ecología (INE), Procuraduría Federal de Protección al Ambiente (PROFEPA), Texas Natural Resource Conservation Commission (TNRCC), EPA

Tijuana - San Diego Air Programs

Total Extramural \$\$ 1998: \$268,000.00

Start Date: 1995

Completion Date: ongoing

Project Purpose:

Continue development and operation of monitoring networks in Tijuana for nitrogen oxides, ozone, carbon monoxide, sulfur dioxide, particulates (PM-10), lead, selected airborne toxic compounds, and meteorological parameters (e.g., wind speed/wind direction). In addition to the monitoring efforts, emissions inventory work will commence in this area. These efforts are intended to lay the foundation for an air quality management program with overall goals of determining ambient air pollutant concentrations, apportioning sources and their relative impacts, recommending cost effective control strategies, and measuring progress/compliance with the air quality standards of each country.

Project Description:

The Tijuana-San Diego projects represent a continuation of efforts to operate the Tijuana air monitoring network, analyze samples, quality assure data, and provide technical support. Emissions inventory work will be based on the recently developed Mexican emissions inventory methodology (See "Emissions Inventory Methodology Pilot Project"). The methodology identifies the most appropriate emissions estimation methods by individual source type for point area, motor vehicle, and natural sources.

Accomplishments 1997:

The California - Baja California Technical Sub-workgroup of the Binational Air Workgroup met regularly to discuss the projects and contractors provided technical support in the installation, operation and maintenance of the network. The six station air monitoring network was completed and is fully operational.

Expected Outcome(s) for 1998:

Continued operation of the air monitoring stations. Initiate training and infrastructure for INE and/or local government to begin phasing into the operation and maintenance of the network. A total of \$36,000 were allocated FY 98 to begin this process both in Mexicali and Tijuana. By the end of calendar year 1998, the air workgroup will begin planning the Tijuana emissions inventory.

Project Contact(s):

Mark Fuentes, CARB, 619-645-5233

Rene Mendivil, SEMARNAP - Baja CA, 52-65-52-4987

Oralia Lopez, ITT - 52-66-21055 ext. 252

Air Workgroup 1998 Implementation Plans

Dan Speer, San Diego APCD, 619-694-3311

Victor Hugo Paramo, INE - Ciudad de Mexico, 011-525-624-3450

Gerardo Rios, EPA Region 9, (415) 744-1259

Participant(s):

Primary U.S. partners are EPA, CARB, the San Diego Air Pollution Control District, the Imperial Valley Air Pollution Control District, and the Western Governors Association.

Primary Mexican partners are Instituto Nacional de Ecología (INE - Mexico City), Delegacion Baja California de la Secretaria de Medio Ambiente, Recursos Naturales y Pesca (SEMARNAP), and the Tijuana Technical Institute (ITT).

**CONTINGENCY PLANNING AND EMERGENCY RESPONSE
1998 IMPLEMENTATION PLANS**

Contingency Planning and Emergency Response Workgroup
1998 Implementation Plans

Technical Assistance Workshops for Sister Cities

Total Extramural \$\$ 1998: \$100,000.00

Start Date: 03/01/98

Completion Date: 09/01/98

Project Purpose:

Provide technical assistance to border sister cities in developing their joint sister city plans.

Project Description:

The objectives of these workshops was to identify problems in the development of contingency plans for chemical emergency response and to work to resolve those problems and develop a joint sister city contingency plan. For 1997, the focus will be on sister cities issues relating to the completion of their plans. In 1996, a workgroup was formed that included a part of Texas and all Tamaulipas, in which a document was developed that identifies the existing problems with the transborder crossing of personnel and equipment in this region and also proposes certain actions to break these barriers. In 1997, this document can serve as a basis for other regions that also need to address the impediments to mutual planning and response between both sister cities. Meetings will be scheduled for groupings of sister cities to address issues which have been identified through the mutual process of developing each sister city plan.

Accomplishments 1997:

Technical assistance workshops for sister cities have taken place in Mexicali/Calexico; Reynosa/McAllen; and Piedras Negras/Eagle Pass. These workshops were conducted by the International City and County Management Association under a cooperative agreement with EPA.

Expected Outcome(s) for 1998:

In 1998, two sister city meetings will be held. The first will be held on March 20, 1998 in San Diego and will include representatives from the San Diego/Tecate-Tijuana and Mexicali/Calexico. The second meeting will be held with the sister cities along the border of the states of Arizona and Sonora and will include training on CAMEO both the English and Spanish version. Later in 1998, two sister city plans will be exercised to determine needed changes in improving the plan. Additionally, during the months of May and June, training sessions which focus on prevention of chemical accidents will be held with the remaining Sister Cities.

Project Contacts:

Sherry Fielding
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Contingency Planning and Emergency Response Workgroup
1998 Implementation Plans

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Carlos Gonzalez Guzman
(525) 666-9450

Participant(s):
EPA, PROFEPA, border states, and sister cities

Contingency Planning and Emergency Response Workgroup
1998 Implementation Plans

Inventory of Resources for Emergency Attention in Mexican Sister Cities

Total extramural \$\$:

Start date: 1996

Completion date (est.): December 1998

Project Purpose:

Develop an inventory of resources for response to emergencies for each sister city in Mexico.

Project Description:

The inventory will provide a current evaluation of states and will provide information during an emergency. In 1996, inventories were developed for sister cities in the states of Baja California and Chihuahua. The inventories will be continued for the rest of the cities in Mexico (Sonora, Coahuila, Nuevo Leon, and Tamaulipas). As standard practice, these inventories exist in all U.S. sister cities.

Accomplishments 1997:

The development of an inventory of emergency response resources has been completed for the States of Coahuila, Nuevo Leon, Sonora and Tamaulipas at the end of 1997. This completes the Mexican border area.

Expected Outcome(s) for 1998:

These completed inventories will be incorporated into a computerized system(GIS) by the end of 1998.

Project Contacts:

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Carlos Gonzalez Guzman
(525) 666-9450

Participant(s):

PROFEPA and Mexican sister cities

Training and Translation of CAMEO

Total extramural \$\$:

Start date: September 1996

Completion date (est.): December 1998

Project Purpose:

To translate the CAMEO system into Spanish and train users in sister cities, so officials at the border will have similar systems to use.

Project Description:

The CAMEO system can manage information dealing with hazardous substances, industries, emergency response groups, maps, etc. This will aid in the identification of the chemical risks in the sister cities and, on occasion, will support in the process of making decisions in an emergency situation. This system has been developed for Windows and will be translated into Spanish. A pilot project will be carried out in various sister cities to test its utility.

Accomplishments 1997:

In 1997, the translation of CAMEO was completed and work was begun on QA/QC of the system and beta testing.

Expected Outcome(s) for 1998:

The translation of CAMEO into Spanish will be completed in Spring 1998. Training in the input of data and use of the system will be provided to the Sister Cities throughout the remainder of 1998.

Project Contacts:

Sherry Fielding
(202) 260-6174
E-mail: fielding.sherry@epamail.epa.gov

Carlos Gonzalez Guzman
(525) 666-9450

Participant(s):

EPA, PROFEPA, Border States, and Sister Cities

Contingency Planning and Emergency Response Workgroup
1998 Implementation Plans

Joint Contingency Plan

Total extramural \$\$:

Start date: March 1996

Completion date (est.): Spring 1998

Project Purpose:

Revise the U.S./Mexico joint Contingency Plan (JCP) to reflect legislative and policy changes in both countries.

Project Description:

The final version of the JCP was revised by the JRT. It is being prepared for signature by the management of SEMARNAP and EPA. This plan will be used for the development of local plans by the fourteen sister cities.

Accomplishments 1997:

The final version of the JCP has been reviewed and approved by the U.S./Mexico Joint Response Team.

Expected Outcome(s) for 1998:

This final version of the JCP will be signed by the two countries by June 1998.

Project Contacts:

Kim Jennings
(202) 260-5046
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Carlos Gonzalez Guzman
(525) 666-9450

Participant(s):

All member of the Joint Response Team (JRT)

Exercise the Joint Contingency Plan (JCP)

Total extramural \$\$:

Start date:

Completion date (est.):

Project Purpose:

Exercise the new Sister City plans in order to determine what changes need to be made to those plans.

Project Description:

A pair of sister cities will be chosen, and then the appropriate groups and individuals will convene to determine the scenario and date for the simulation. A schedule for four (4) simulations will be developed by September 1997. One of these will be a full scale exercise, while the others will focus primarily on the communications between the federal levels, state, and locals.

Accomplishments 1997:

An exercise of the notification procedures between federal levels of the governments was held in Nuevo Larado/Larado in November 1997.

Expected Outcome(s) for 1998:

Lessons were learned from this exercises which will be incorporated into the implementation of future exercises. A schedule for the three remaining exercises will be established in March 1998 and the exercises will be held prior to the end of 1998.

Project Contacts:

Sherry Fielding
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E-mail: fielding.sherry@epamail.epa.gov

Carlos Gonzalez Guzman
(525) 666-9450

Participant(s):

All members of the Joint Response Team (JRT)

Follow-up on Recommendations of the Transboundary Mobilization of Personnel and Equipment Workgroup

Total extramural \$\$:

Start date: May 1997

Completion date (est.): December 1998

Project Purpose:

To form a U.S./Mexico JRT workgroup on transboundary mobilization of personnel and equipment to identify barriers to and recommendations for improving cross border emergency response. The JRT will then implement those recommendations.

Project Description:

Formation of the U.S./Mexico JRT Workgroup on Transboundary Mobilization of Personnel and Equipment was a workplan item in 1996/1997. The Workgroup convened its first meeting in July 1996 and held a total of four additional meetings. In the initial meetings, the Workgroup brainstormed to identify all possible barriers to rapid border crossing, and then identified four key barriers and four secondary barriers on which to focus their attention. For each barrier, the Workgroup identified the factors that make it a barrier and then provided recommendations for possible resolution. For 1997/1998, these recommendations will be studied and appropriate measures taken, ensuring involvement at the local level.

Accomplishments 1997:

In 1997, the JRT reviewed and developed steps to implement several of the recommendations from the Workgroup.

Expected Outcome(s) for 1998:

In 1998 the JRT will establish a webpage for border activities, develop a semi-annual report on U.S./Mexico accomplishments and upcoming activities, gather all existing emergency response laws, treaties, and agreements to be put on the webpage, include an overview of the roles and responsibilities for each U.S. and Mexican agencies in the JCP, involve industry, customs, and immigration representatives in Federal, state, and local contingency planning, and develop outreach strategies for JRT activities and products.

Project Contacts:

Sherry Fielding

(202) 260-6174

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Contingency Planning and Emergency Response Workgroup
1998 Implementation Plans

Carlos Gonzalez Guzman
(525) 666-9450

Participant(s):
Federal, state, and local officials

Contingency Planning and Emergency Response Workgroup
1998 Implementation Plans

U.S./Mexico Notification Procedures

Total extramural \$:

Start date: March 1997

Completion date (est.): December 1998

Project Purpose:

To establish a centre for emergencies in Mexico in order to facilitate rapid notification of chemical emergencies to all appropriate authorities along the U.S./Mexico border.

Project Description:

The US NRC is sending the notification for chemical accidents that occur along the US border area to the Mexican co-chair of the JRT. Otherwise, the incidents happen in the Mexican border area have been reported to the U.S. co-chair. Mexico is establishing the Center for Emergencies to facilitate the rapid notification to all the appropriate authorities along the US/Mexico border. To help with this effort, the EPA arranged for a delegation from PROFEPA to visit the US NRC, CHEMTREC, and other facilities. EPA is also exploring options for training of Mexican officials at the NRC.

Accomplishments 1997:

The Mexican Centre for Emergencies was established in 1997.

Expected Outcome(s) for 1998:

It is expected that the Mexican Centre for Emergencies will be fully operational by the end of 1998.

Project Contacts:

Carlos Gonzalez Guzman
(525) 666-9450

Sherry Fielding
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Participant(s):

PROFEPA, EPA, and the U.S. National Response Centre (NRC)

**COOPERATIVE ENFORCEMENT AND COMPLIANCE
WORKGROUP 1998 IMPLEMENTATION PLANS**

Cooperative Enforcement and Compliance Strategy

Total extramural \$\$: 96,500

Start/Completion date: ongoing

Project Purpose:

To improve coordination among the local, state and federal agencies on both sides of the border involved in environmental enforcement and compliance.

Project Description:

EPA and PROFEPA are establishing regional Subgroups along the border, with the participation of all the involved agencies. Participants will address items in which they may coordinate their activities, in accordance with applicable laws and available resources. The cooperative activities may be directed, for example, at specific problems identified in the industrial sector. The Subgroups will identify selected common priorities and develop cooperative enforcement and compliance actions targeted to address those priorities, including through:

1. The sharing of information held by one country which may assist the other in detecting noncompliance with the latter's environmental regulations.
2. The planning, programming and implementation of enforcement and voluntary compliance activities necessary to assure and potentially go beyond compliance.
3. Technical support, such as exchange of information and expertise.
4. Cooperation in investigating specific enforcement cases.

Accomplishments 1997:

EPA and PROFEPA continued regional Subgroups for Texas/New Mexico/Chihuahua and California/Baja California, established a Subgroup for Arizona/Sonora, and approved the establishment of Subgroups for Coahuila/Texas and Tamaulipas/Texas. The Mexican and U.S. Sections of IBWC and the National Water Commission (CNA), and customs and transportation officials of both countries have been invited as participants in the Work Group and its Subgroups.

Expected Outcomes for 1998:

Initiate the new Coahuila/Texas and Tamaulipas/Texas Subgroups, by April. Each Subgroup will explore expanded participation of, and identify contacts from, U.S. tribal governments, Mexican state governments, and local governments on both sides. By April, each Subgroup will identify at least one set of priorities for cooperative initiatives, to be initiated April to December, 1998. Priority targets may include enforcement of analogous requirements on both sides of the border, on issues mutually agreed to by the Parties.

Cooperative Enforcement and Compliance Workgroup
1998 Implementation Plans

Project Contacts:

See Annex I for contacts for each Subgroup.

Participants:

PROFEPA, EPA, DOJ, state, local and tribal environmental authorities, U.S. and Mexican customs and transportation agencies. (See Annex I for more detailed list for each Subgroup).

Guidance for Cooperation in Enforcement Cases

Total extramural \$\$: 0

Start and completion date: ongoing

Project Purpose:

To improve field coordination in environmental enforcement.

Project Description:

In accordance with their respective jurisdictions and applicable law, PROFEPA, EPA, and DOJ will identify and analyze mechanisms for the coordination of specific matters relating to the enforcement of and compliance with environmental law. They will develop guidance, in particular, with respect to the sharing of information, the gathering and presentation of evidence, and other matters that may arise within the ambit of administrative proceedings developed by PROFEPA and administrative and civil judicial proceedings developed by EPA and DOJ.

Accomplishments 1997:

PROFEPA, EPA, DOJ, and Canadian authorities began analyzing legal issues pertaining to the exchange of information in support of enforcement cooperation under the auspices of the North American Environmental Enforcement and Compliance Work Group. This effort will provide a solid basis for developing binational guidelines.

Expected Outcome(s) for 1998:

Antonio Azuela de la Cueva, PROFEPA, Steven Herman, EPA, and Lois Schiffer, DOJ, will issue a joint communication to inform field personnel on both sides of the border of the cooperative efforts that have been undertaken to share information and provide assistance in the gathering and presentation of evidence, and attach guidance in which they set forth the existing international and national mechanisms for the same, as well as a list of contacts in each country with expertise in these areas to facilitate cooperation in enforcement cases.

Project Contacts:

Miguel Angel Cancino, PROFEPA; Lawrence Sperling, EPA; Ignacia Moreno, DOJ

Participants:

EPA, DOJ, PROFEPA, state and local environmental agencies

Enforcement and Compliance Results Information-Sharing

Total extramural \$\$: \$16,000

Start and completion date: ongoing

Project Purpose:

To exchange and publicize information on the environmental enforcement activities of both countries in the border area.

Project Description:

EPA, PROFEPA and other participant authorities will conduct an annual exchange of information regarding enforcement and voluntary compliance activities in the border area, in accordance with the criteria which the Group will determine. To complement this, EPA and PROFEPA will consider, in specific cases, sharing information regarding the nature and severity of the violations detected and the sanctions imposed, in accordance with the applicable legislation in each country. To facilitate the preparation of binational reports on Work Group activities, each Subgroup will annually prepare and semiannually update a binationally agreed-to report on their respective activities, organized to the extent possible along the project categories described in this Work Plan.

Accomplishments 1997:

In January, 1997, PROFEPA provided EPA a report for 1996, and in May, 1997, PROFEPA provided to EPA a report on progress for 1997. These reports included data for the period of August 1992 to December 1996. In May, 1997, EPA sent PROFEPA a report on enforcement actions in the U.S. southern border for 1995 and 1996, including a statistical summary and a description of several specific cases. PROFEPA and EPA have identified their respective enforcement and compliance indicators for the border areas.

Expected Outcome(s) for 1998:

The Work Group will continue with its regular data exchanges, expanding its efforts to include information on enforcement activities for all environmental media, as well as information on specific cases. Each Subgroup will annually prepare and semiannually update a binationally agreed-to report on their respective activities.

Project Contacts:

Miguel Angel Cancino, PROFEPA; Armand LePage, EPA

Participants:

EPA, DOJ, PROFEPA, state and local environmental agencies

Training

Total extramural \$\$: \$92,500

Start and Completion Date: Ongoing

Project Purpose:

To build capacity through cooperative training on various aspects of environmental enforcement and compliance.

Project Description:

- A. Field Investigations and Sampling: In cooperation with the Hazardous Waste Work Group, the Work Group will conduct training which has been developed in this area.
- B. Hazardous Waste Laws and Definitions: The Work Group will explore cross training by agency personnel on their respective definitions and management requirements for hazardous waste.
- C. Pretreatment Inspections: EPA and CNA will enhance the training to support municipal pretreatment inspection programs for industrial dischargers, and provide it in critical regions of the border.
- D. Principles of Environmental Enforcement and Compliance: The Work Group will explore additional presentations of this workshop in the border area, integrating previous participants as facilitators.
- E. Transboundary Hazardous Waste and CFC Shipment Compliance: The Work Group will continue routine deliveries of these courses for customs and environmental officials on both sides of the border.
- F. Other Training: The Work Group will explore cooperative training in other specialized areas, such as environmental crimes, air emissions or pesticide enforcement, and others, through courses to be offered by state or federal institutions in one country or the other.

Accomplishments 1997:

- A. EPA and PROFEPA worked together to develop sampling course.
- B. Subgroups presented proposals for hazardous waste laws and definitions cross training
- C. EPA and CNA piloted Pretreatment Inspections Course, Tijuana, September 1997
- D. EPA and PROFEPA coordinated to present this training in San Carlos, Sonora, February, 1998.
- E. EPA and PROFEPA refined Transboundary Hazardous Waste course materials and continued training on a routine basis. EPA produced CFC smuggling training video. In June, 1997, 11 Mexican and 45 U.S. environmental and customs inspectors participated in Transboundary CFC workshops in Laredo, Hidalgo and Brownsville, Texas.
- F. In March, 1997, nine Mexican students participated in an EPA-sponsored training for

Cooperative Enforcement and Compliance Workgroup
1998 Implementation Plans

hazardous waste ("RCRA") inspectors. 3 PROFEPA officials participated in TNRCC environmental crimes enforcement training. California Environmental Protection Agency developed a training video presenting Environmental Crimes scenarios in the border area.

Expected Outcomes for 1998:

- A. Pilot course: Nuevo Laredo, March, 1998. Second Delivery: Possibly Nogales, July, 1998
- B. EPA Region VI and PROFEPA-Chihuahua to sponsor pilot course delivery by October, 1998
- C. Second Pretreatment Inspection Course by September, 1998, in Tamaulipas
- D. Explore possible additional presentation in another border location
- E. Distribution of final course materials to states, regional associations; continued routine deliveries.
- F. Participation in training according to priorities, resources, and space availability.

Project Contacts:

Miguel Angel Cancino, PROFEPA; Armand LePage, EPA; see also Annex I.

Participants:

EPA, PROFEPA, CNA, DOJ, state and local environmental agencies, regional environmental enforcement associations, U.S. and Mexican customs and transportation authorities.

Technical and Legal Consultations

Total extramural \$\$: 0

Start and Completion date: Ongoing

Project Purpose:

To build capacity through technical and legal consultations on various aspects of environmental enforcement and compliance.

Project Description:

- A. Policies regarding enforcement of the environmental laws and regulations: EPA and PROFEPA will hold a follow-up conference for technical and legal enforcement personnel of the Mexican and U.S. governments to consider legal and technical aspects of the enforcement of their environmental laws and regulations. EPA and PROFEPA will conduct informal technical and legal consultations on policies to ensure consistency in the enforcement process.
- B. Calculation of Economic Sanctions: EPA and PROFEPA will continue consultations regarding methodologies of each country in calculating economic penalties in enforcement cases, taking into account the benefit to the violator of non-compliance.
- C. Criminal Environmental Enforcement: EPA, PROFEPA, and DOJ will continue consultations regarding criminal environmental law enforcement.
- D. Supplemental Environmental Projects (SEPs): EPA and PROFEPA will analyze and share information about their respective legal frameworks, to determine possible mechanisms for cooperation on this issue.

Accomplishments 1997:

- A. The Work Group initiated the planning for a conference to be held in 1998.
- B. EPA and PROFEPA exchanged information on their methods used to determine the amount of sanctions for infractions of the law.

Expected Outcomes for 1998:

- A. Follow-up conference to be conducted by July, 1998. Informal consultations to proceed as time and resources allow.
- B. Ongoing
- C. Ongoing
- D. Identification and analysis of the legal framework in both countries on SEPs

Project Contacts: Myriam Gonzalez, PROFEPA; Lawrence Sperling, EPA

Participants: EPA, PROFEPA, DOJ, state environmental agencies, Environmental Law Institute

Environmental Auditing and Voluntary Compliance

Total extramural \$\$: \$45,000

Start and completion date: ongoing

Project Purpose:

To promote voluntary environmental compliance, including through environmental auditing.

Project Description:

EPA and PROFEPA will continue the efforts initiated in 1994 to provide information to U.S. parent corporations of Mexican industries to stimulate their participation in PROFEPA's environmental auditing program. EPA and PROFEPA will expand their coordinated efforts to promote voluntary compliance in industrial sectors, including by means of environmental auditing and the adoption of pollution prevention practices and technologies as a possible solution to compliance problems. Such efforts will include industry seminars and workshops to promote environmental auditing.

EPA and PROFEPA will work cooperatively to distribute to industry the video, "Environmental Auditing and Pollution Prevention: Strategies for Voluntary Compliance in the Maquiladora Industry" and accompanying written materials developed by PROFEPA. The video includes a focus on environmental auditing as a tool to assure compliance and identify pollution prevention opportunities.

Accomplishments 1997:

In 1996 and 1997, eighteen maquiladoras conducted environmental audits in PROFEPA's Environmental Auditing and Voluntary Compliance Program, and thirty maquiladoras formalized their Plans of Action from audits already conducted. In March, 1997, PROFEPA and EPA gave presentations on their countries' respective voluntary compliance programs at a conference on environmental auditing in El Paso. In September 1997, EPA and PROFEPA hosted a conference in Washington, D.C. on Environmental Auditing and Voluntary Compliance for key industry sectors, including automotive, electronics and chemical manufacturers, among others. At the conference, industry and government participants discussed ways to enhance and exceed compliance in the border area. EPA translated and posted on its Web-Site Spanish-language translations of its Compliance Notebooks for the Electronics, Metal Finishing, and Organic and Inorganic Chemicals Sectors. In September, 1997, EPA finalized production of the video "Environmental Auditing and Pollution Prevention: Strategies for Voluntary Compliance in the Maquiladora Industry". The video includes a focus on environmental auditing as a tool for assuring compliance and identifying pollution prevention opportunities. PROFEPA and EPA discussed possible uses of the video in their

Cooperative Enforcement and Compliance Workgroup
1998 Implementation Plans

compliance promotion efforts.

Expected Outcomes for 1998:

Priorities for 1998 include increased participation of the Subgroups in this project area. EPA and PROFEPA, by means of a committee consisting of representatives of both countries, will also begin to explore new possibilities for stimulating improved industry compliance and leadership which goes beyond compliance, including through exploration of options for developing a Binational Recognition Program for participants in the respective voluntary compliance programs of both countries. EPA and PROFEPA will develop and disseminate bilingual compliance promotion materials, including updating of the binational Maquiladora Environmental Compliance Manual, translation and dissemination of EPA's Sector Compliance Notebooks, and distribution of PROFEPA information about its Environmental Auditing Program. By July, 1998, EPA and PROFEPA will complete distribution of video and accompanying materials. EPA and PROFEPA will explore industry seminars on environmental auditing, as resources permit.

Project Contacts:

Carlos Gonzalez, PROFEPA; Lawrence Sperling, EPA

Partners:

EPA, PROFEPA, state and local environmental agencies, and other participants.

Creation of Border XXI Wildlife Enforcement Subgroup

Total extramural \$\$: 0

Start and Completion date: Ongoing

Project Purpose:

To improve coordination among federal, tribal, and state agencies on both sides of the border involved in wildlife enforcement and compliance.

Project Description:

U.S. Fish and Wildlife Service (FWS) and PROFEPA are establishing a subgroup with the participation of the relevant authorities. Participants will address items in which they may coordinate their activities, in accordance with applicable laws and available resources. The subgroup will identify selected common priorities and develop cooperative enforcement and compliance actions targeted at addressing those priorities within the framework of the Border XXI Program.

Anticipated projects include:

- (1) establishing protocols for communicating with border counterparts concerning enforcement issues;
- (2) identification and resolution of common issues concerning the enforcement of laws protecting wildlife and plants;
- (3) coordination of joint training activities; and,
- (4) implementation of public outreach efforts concerning the work of the subgroup.

Accomplishments 1997:

N/A

Expected Outcome(s) for 1998:

The subgroup will meet in May of 1998 to establish a work program for the current year.

Project Contacts:

PROFEPA and FWS

Participants:

PROFEPA, FWS, DOJ, state and tribal wildlife enforcement authorities.

Cooperative Enforcement and Compliance Workgroup
1998 Implementation Plans

Binational California/Baja California Subgroup

Total extramural \$\$: 0

Start date: ongoing

Project Purpose:

With the goal of coordinating and completing specific compliance and enforcement actions based on environmental law in the border area of California and Baja California this subgroup was formed in 1996, to strengthen the environmental objectives of the United States and Mexico and address transboundary environmental problems.

Project Description:

The Enforcement activities of the Subgroup are focused on: 1) Cooperation on Enforcement and Compliance Assurance, 2) Enforcement Results Information-Sharing, 3) Training, 4) Technical and Legal Consultation, 5) Environmental Auditing and Voluntary Compliance. The enforcement and compliance actions which have been carried out include: 1) cooperative activities directed at specific problems identified in the industrial sector, 2) annual and biannual activity reports, 3) development of training courses on environmental legislation, transboundary movement of hazardous wastes, detection of illegal shipments of CFCs, and 4) continue with the promotion of environmental audits and the voluntary compliance of U.S. companies with subsidiaries in Mexico.

Accomplishments 1997:

1) exchanged information and cooperated on case-specific investigations (eg. maquiladora activities and waste that was improperly handled); 2) exchanged information on recycling, treatment and disposal facilities in the United States and Mexico; 3) repatriated from Ejido Jacome to U.S. tires that had been illegally exported to Mexico; 4) expanded participation by federal, state and local environmental agencies; 5) exchanged information and cooperated in investigation of problems regarding import to and use in Mexico of Seasoil; 6) exchanged information regarding the activities of specific companies on both sides of border; 7) presented (San Diego Dept. of Env. Health) four courses on "Detection of Illegal Shipments;" 8) presented two inspector cross-trainings (PROFEPA/CalEPA) regarding inspection of hazardous waste; 9) presented training regarding use and handling of pesticides (SAGAR/ Sect. de Salud/PROFEPA); 10) presented simulations of ammonia releases (PROFEPA/CANACINTRA) and hazardous materials spills (fire departments of Imperial County and Mexicali); and 11) presented workshop on export and import of hazardous waste and materials (Inst.de Invest.Reg.de las Calif./CalEPA/PROFEPA/SCT/SEMARNAP /Aduana)

Expected Outcome(s) for 1998:

Cooperative Enforcement and Compliance Workgroup
1998 Implementation Plans

1) expand participation by federal, state and local environmental agencies; 2) cooperate on civil and criminal investigations; 3) address pesticide drift from agricultural to urban areas; 4) investigate new methods to monitor pollution in New River; 5) address problems of maquiladoras that abandon facilities and waste in Mexico; 6) explore use of improved HAZTRAKS data to identify enforcement targets; 7) provide basic investigation training similar to that provided by FLETC; and 8) present Principles of Environmental Enforcement Workshop.

Project Contacts:

Antonio Sandoval, PROFEPA, Mexicali; and
John D. Rothman, USEPA, San Francisco

Participants:

U.S.: CalEPA, US Customs, FBI, U.S. Attorney (S.Dist), San Diego County Dept. Of Env. Health, San Diego DA, Imperial County DA, Regional Water Quality Control Board, IBWC.

Mexico: Est. Baja Cal, CNA, CILA, PGR, Aduana, SAGAR, Salud, SECOFE, munic. (Tijuana, Mexicali, Tecate).

Cooperative Enforcement and Compliance Workgroup
1998 Implementation Plans

Binational Arizona/Sonora Subgroup

Total extramural \$\$: 0

Start date: ongoing

Project Purpose:

With the goal of coordinating and completing specific compliance and enforcement actions based on environmental law in the border area of Arizona and Sonora this subgroup was formed in 1997, to strengthen the environmental objectives of the United States and Mexico and address transboundary environmental problems.

Project Description:

The Enforcement activities of the Subgroup are focussed on: 1) Cooperation on Enforcement and Compliance Assurance, 2) Enforcement Results Information-Sharing, 3) Training, 4) Technical and Legal Consultation, 5) Environmental Auditing and Voluntary Compliance. The enforcement and compliance actions which have been carried out include: 1) cooperative activities directed at specific problems identified in the industrial sector, 2) annual and biannual activity reports, 3) development of training courses on environmental legislation, transboundary movement of hazardous wastes, detection of illegal shipments of CFCs, and 4) continue with the promotion of environmental audits and the voluntary compliance of U.S. companies with subsidiaries in Mexico.

Accomplishments 1997:

1) information exchange and cooperation on case-specific investigations (eg. transportation of incompatible chemicals from U.S. to Mexico); 2) cooperative investigation of illegal transport of maquiladora wastes to U.S. (coordination among ADEQ, U.S.EPA, U.S. Customs, Mexican Aduana and PROFEPA); 3) regular notification of transboundary shipments of hazardous cargo suspected of being waste; 4) participation in "AMIGO" program which promotes pollution prevention for industries on both sides of border; 5) expanded participation by federal, state and local environmental agencies on both sides of border; and 6) presented the workshop "Principles of Environmental Enforcement" to a group of environmental policy makers from both sides of border which included federal, state, tribal, and local representatives as well as representatives of non-governmental organizations and manufacturing groups.

Expected Outcome(s) for 1998: 1) expand participation by federal, state and local environmental agencies; 2) cooperate on civil and criminal investigations; 3) conduct CFC training to promote enhanced awareness and interdiction; 4) conduct pesticides training to address use, storage and disposal of pesticides; 5) provide binational cross-training on interdiction of flora/fauna smuggling; 6) provide enforcement training at the Federal Law

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Enforcement Training Centre in Georgia for several enforcement officials; 7) present course on environmental sampling techniques; and 8) use of improved HAZTRAKS data to identify enforcement targets.

Projects Contacts:

Lic. Jorge Morachis, PROFEPA, Hermosillo;
Placido dos Santos, ADEQ, Tucson; and
John D. Rothman, USEPA, San Francisco

Participants: U.S.: AZ Atty. Gen., US Customs, FBI, U.S. Attorney, IBWC, Tohona O'odham Nation, U.S. Fish & Wildlife Service, Santa Cruz County, Nogales (AZ); **Mexico:** CNA, PGR, CILA, Aduana, SIUE, COAPAES, Nogales (Sonora)

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Binational Chihuahua/Texas/New Mexico Subgroup

Total Extramural \$\$:

Start Date: Ongoing

Project Purpose:

With the goal of coordinating and completing specific compliance and enforcement actions based on environmental law in the border area of Chihuahua, Texas, and New Mexico, this Subgroup was formed in 1996, to strengthen the environmental objectives of the United States and Mexico and address transboundary environmental problems.

Project Description:

The Enforcement activities of the Subgroup are focused on: a) Cooperation on Enforcement and Compliance Assurance, b) Enforcement Results Information-Sharing, c) Training, d) Technical and Legal Consultation, e) Environmental Auditing and Voluntary Compliance. The enforcement and compliance actions which have been carried out include: 1) cooperative activities directed at specific problems identified in the industrial sector, 2) annual and biannual activity reports, 3) development of training courses on environmental legislation, transboundary movement of hazardous wastes, detection of illegal shipments of CFCs, and 4) continue with the promotion of environmental audits and the voluntary compliance of U.S. companies with subsidiaries in Mexico.

1997 Accomplishments:

information exchange and cooperation on case-specific investigations of American companies and maquiladoras which committed violations; joint inspection of hazardous wastes at the Ysleta-Zaragoza bridge; information exchange on recycling, treatment and disposal facilities of authorized hazardous waste sites in the United States and Mexico; review and oversight regarding the illegal importation into Mexico of drums which contained hazardous materials or wastes; information exchange on requirements of insurance policies and bonds for transporters of hazardous wastes; information exchange regarding the installation and operation of an oil recycling company in Cd. Juárez, letting the BECC know about the company's level of compliance with respect to environmental requirements; informational meetings with Mexican transporters on the legal requirements in both countries for transportation of hazardous materials and wastes; interagency cooperation with SCT, SHCP y SECOFI on the use of identification labels and placards for vehicles transporting hazardous waste; assistance and/or participation in: Annual Workshop for Inspectors of Hazardous Waste (RCRA), Workshop on Environmental Hazardous Waste Regulations for Customs and Environmental Officials of the U.S. and Mexico; Workshop on U.S. Criminal Environmental Enforcement; and promotion of environmental audit and voluntary compliance for U.S. companies with Mexican subsidiaries, and the presentation

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of "Industria Limpia" certificates by PROFEPA to 12 maquiladoras located in the state of Chihuahua.

Expected Outcome(s) for 1998: Develop cooperative enforcement initiatives directed at companies involved in the transboundary movement of hazardous waste, to improve regulatory compliance in the respective countries; exchange information and cooperate with enforcement activities directed at environmental problems which have been specifically identified on a binational basis; increase the Subgroup participation in promoting environmental audit and voluntary compliance, as well as the use of a Pilot Project for HAZTRAKS, for which EPA will provide the infrastructure and the necessary resources; implementation of a course on Environmental Legislation of Mexico and the United States; Workshop on identification and management of used oils; Workshop on Environmental Hazardous Waste Regulations for Customs and Environmental Officials of the U.S. and Mexico; Workshop for Customs Brokers, Transporters and Generators on Hazardous Waste.

Projects Contacts:

Biol. María del Pilar López Marco, PROFEPA Delegada for Chihuahua;
Efren Ordoñez, EPA Region VI; Steven Niemeyer, TNRCC

Participants:

State Delegation of PROFEPA en Chihuahua, Federal Delegation of SEMARNAP in Chihuahua, SCT, CNA, EPA, TNRCC, NMED, DOT, Mexican and U.S. Customs

**ENVIRONMENTAL HEALTH WORKGROUP
1998 IMPLEMENTATION PLANS**

Lower Rio Grande Valley Transboundary Air Pollution Project

Total Extramural \$\$ 1998:

Start Date: 3/96

Completion Date (est.): 6/98

Project Purpose:

To assess transboundary air transport and possible sources in a section of the Lower Rio Grande Valley in and near Brownsville, Texas.

Project Description:

This collaborative EPA-TNRCC study collected air quality data for a year (March 1996-March 1997). Based on air pollution results from the 1993 Lower Rio Grande Valley Environmental Scoping Study and air monitoring by TNRCC, atmospheric characterization and modeling studies were used to assess transboundary influences. Three fixed sites very close to the U.S.-Mexico border were established to collect air pollutants and meteorology on a continuous and 24-hour integral basis. Using this data, time-series pollution plots, chemical tracer analysis, wind sector analyses, and principal component analysis were utilized to determine possible transboundary impacts and sources. Data summaries were compared with TNRCC Effects Screening Levels (ESLs) to identify air pollutants that may pose potential health/welfare concerns. The data was also compared to other air monitoring studies. Long-term goals of this study are: 1) to provide TNRCC with background data with which future changes in air pollutant levels in the Valley can be assessed, and 2) to provide TNRCC with a cost-effective monitoring and modeling approach to assess transboundary air transport in other border communities.

Accomplishments 1997:

Data analysis and draft reports have been completed.

Expected Outcome(s) for 1998:

An EPA project report and project summary on this study are expected to be available for public distribution in June 1998.

Project Contacts:

Federal: Stephen C. Hern, EPA, (702) 798-2594
Shaibal Mukerjee, EPA, (919) 541-1865
TNRCC: Kirk E. Dean, (512) 239-1813
Tony Franco, (210) 425-6098

Participant(s):

TNRCC, EPA/ORD

Investigation of Systemic Lupus Erythematosus Nogales, Arizona

Total Extramural \$\$ 1998:

Start Date: 9/96

Completion Date (est.): 12/99

Project Purpose:

To determine whether exposure to chemicals in the environment was associated with systemic lupus erythematosus (SLE) among residents of Nogales, Arizona.

Project Description:

In March 1996, the Arizona Department of Health (ADH) asked the Centers for Disease Control and Prevention (CDC) for help in conducting a case-control study to determine whether exposure to chemicals in the environment was associated with systemic lupus erythematosus (SLE) among residents of Nogales, Arizona. The study will include a clinical physical examination of case subjects and laboratory evaluation of both case subjects and control subjects. Exposure history from questionnaire data will be supplemented by data from environmental sampling and by other questionnaire data on the reproductive history, occupational history, and medication history of study participants. A pilot study will be conducted in Nogales. If results warrant follow-up, a case-control study will then be undertaken in Nogales and a non-border town. This study will address multiple risk factors with emphasis on environmental exposure to assess whether or not there is an association between lupus and exposure to environmental contaminants, a concern of the Nogales community for several years.

Accomplishments 1997:

Collected data on seasonal patterns of symptoms from thirty-six reported lupus cases.

Collected bio-samples from thirty-six reported lupus cases.

Begun clinical examination of cases, expected completion date 7/31/98.

Expected Outcome(s) for 1998:

1) Completion of phase I pilot study; 2) Begin Phase II case control study and comprehensive exposure questionnaire

Project Contacts:

Lina Balluz, CDC/NCEH (770) 488-7353

Luis Ortega, ADH (602) 230-5880

Participant(s): CDC/NCEH, ADH, EPA/ORD

U.S. Mexico Border Geographic Information System (GIS) for Environmental Health

Total Extramural \$\$ 1998:

Start Date: 6/97

Completion Date (est.): 12/99

Project Purpose:

Develop GIS capabilities and information to aid in conducting environmental health research.

Project Description:

One of the major limitations in assessing the potential health impacts of environmental contamination along the U.S.-Mexico border is the lack of an integrated set of environmental, population, and health datasets for the region. An Environmental Health GIS will link these datasets and will be an extremely useful tool in assessing health impacts through its ability to visually query and display data based on location, and analyze spatial relationships. Objectives of this project are to (1) develop an integrated set of compatible environmental, population, and health outcome GIS databases for the U.S.-Mexico border region; (2) develop specific applications of GIS for addressing environmental health problems along the border; (3) develop a set of practical reports or manuals for environmental health practitioners which address opportunities for applying GIS to environmental health problems; and (4) increase collaboration and information sharing between the U.S. and Mexican border states, and to support the development of a similar environmental health GIS system for the border areas of Mexico. Coordinated GIS projects have been initiated in all U.S. border states to meet these objectives.

Accomplishments 1997:

Listserv established to facilitate communication between individuals working on GIS on the U.S.-Mexico border.

The initiative convened a meeting of Federal and State health and environment officials who are working with GIS. The meeting was also attended by a representative from Mexico's National Institute for Public Health.

Expected Outcome(s) for 1998:

(1) Standardized base map for the entire U.S.-Mexico border region; (2) Inventory of existing environmental, population, and health outcome datasets available for the border region; (3) Complete a pilot project to evaluate the use of remote sensing information (e.g., LANDSAT) to create land use and other coverages for both sides of the U.S.-Mexico border; (4) Report summarizing pros and cons of available GIS software packages; (5) Applications of GIS to public health, sources of GIS data for these applications, and opportunities for training.

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Project Contacts:

Raymond Neutra, California Department of Health Services	(510) 450-2400
Mauricio Hernández, Instituto Nacional de Salud Publico	(52) 73-17-53-91

Participant(s): ADHS, CDHS, NMBHO, NMEH, TDH, UTSPH-EP, MNIPH, EPA/ORD, NIEHS

Neural Tube Defect (NTD) Assessment along the US-Mexican Border

Total Extramural \$\$ 1998:

Start Date: 1996

Completion Date (est.): 12/01

Project Purpose:

To document and reduce the prevalence of NTD on both sides of the border and elsewhere in Mexico through case-control and epidemiological studies, fortification of flour and grain food products, training of health professionals in the border region, and education of at-risk populations.

Project Description:

Clusters of NTD have been identified in several border communities during the past decade. The basic objectives of this initiative are to document and reduce the prevalence of NTD on both sides of the border and elsewhere in Mexico through case-control and epidemiological studies, fortification of flour and grain food products, training of health professionals in the border region, and education of at-risk populations. In the first phase, available NTD surveillance data from border states, border "sister cities" and data from elsewhere in Mexico will be collected to estimate the prevalence of NTD. "Capture-recapture" data collection techniques will be used in border states such as Chihuahua or Sonora. In the second phase, the conduct of a case-control etiologic study will be explored in Tamaulipas. In the third phase, baseline folate intake along the US-Mexican border will be assessed using the most recent Mexican National Nutrition Survey. Community-based projects will be undertaken to educate reproductive-age women about the good dietary habits and the protective effects of high folate intake. Blood folate levels will be monitored in women of child-bearing age. (See related Texas NTD Project description.)

Accomplishments 1997:

Created standard case definitions of Anencephaly, Spina Bifida, and Encephalocele with diagrams and figures.

Expected Outcome(s) for 1998:

- (1) Refine case definitions for anencephaly, spina bifida and encephalocele for field use
- (2) Update surveillance manual including physical descriptions and photos of each defect
- (3) Distribute training materials to persons collecting case data to standardize procedures
- (4) Recruit epidemiology trainees to participate in surveillance program
- (5) Provide training for risk factor studies
- (6) Create a Border Bulletin for NTDs
- (7) Complete manuscript on NTD rates in Mexico and the U.S.
- (8) Consult with Mexican partners on questionnaire for future case-control studies

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(9) Finalize protocol for collaborative Texas-Tamaulipas case-control study

Project Contacts:

Joe Mulinare, CDC/NCEH (770) 488-7190

Pablo Kuri Morales, SSA/DGE (525) 593-0824

Participant(s):

CDC/NCEH, EPA/ORD, TDH, SSA/DGSA, DGE, Mexican State Health Departments

Texas Neural Tube Defect Project

Total Extramural \$\$ 1998:

Start Date: 1995

Completion Date (est.): ?

Project Purpose:

Determine environmental contaminant risk factors for NTD occurrence.

Project Description:

In 1995, the Texas Department of Health initiated a four-year case-control study of risk factors for neural tube defects in 14 counties along the Texas-Mexico border. Case-women are identified through active surveillance. The case-control protocol includes a large general questionnaire, a food-frequency questionnaire, and laboratory tests of biological samples. This study is being supported by CDC and EPA and is the third component of a project that includes NTD surveillance and folic acid intervention. A special study was initiated in 1997 that coupled to the case-control study. It is entitled, "A Spatial Approach to Determining the Role of Environmental Exposures in Neural Tube Development," and has the objective of determining the relationship between NTDS and the proximity of case- and control-women to agricultural and industrial sources of contamination in Cameron and Hidalgo Counties. An anticipated outcome of this project is the identification of unique biomarkers of environmental exposure, genetic susceptibility, and gen-environment interaction that lead to the development of NTDS in a Hispanic high-risk population. Examination of the exposure-disease link can greatly increase the understanding of inborn errors of morphogenesis that are responsible for NTD pathogenesis.

Accomplishments 1997:

Continue to enroll women who have had a prior child with an NTD, and give them folic acid to prevent reoccurrence. No reported NTDs in this group from 1993-1997. Case-control study continues to examine biomarkers of NTD risk.

Expected Outcome(s) for 1998:

1) Preliminary analyses of the NTD food frequency questionnaire data, laboratory data, and "mother" questionnaire data; 2) Begin data collection and spatial analysis of NTD case- and control-women who live in the proximity of fertilized fields and industrial pollution sites will be completed; 3) Examined associations between questionnaire data, environmental exposure data obtained through GIS/spatial analyses, and agricultural field inspector/applicator data, corrected for confounders.

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Project Contacts:

Katherine A. Hendricks, Texas Department of Health (512) 458-7328

Participant(s):

TDH, TDA, CDC/NCEH, EPA/ORD

**U.S.-Mexican Border XXI Initiative for Pediatric Lead Exposure
Identification and Risk Reduction**

Total Extramural \$\$ 1998:

Start Date: 1996

Completion Date (est.): 1999

Project Purpose:

To document and reduce the prevalence of childhood lead poisoning in the border region through better source characterization, risk communication, reduction of exposure and integrated risk assessment/risk management; develop cross-border surveillance capacity, sharing expertise in U.S. and Mexican states; transfer technology and expertise to Mexican border states for establishment of lead screening programs.

Project Description:

During the initial phase, partners will identify childhood lead surveillance activities and studies that have occurred previously in the border region. Types of exposure and availability of field personnel with appropriate educational materials will be inventoried. Cost and availability of screening methods for products containing lead, blood lead screening, and methods for reducing lead exposure will be evaluated. The current status of lead screening and community education program in each U.S. and Mexican state will be assessed and the need for additional screening along the border will be identified. Lead screening, remediation and community education programs will be implemented as necessary. This initiative is particularly important for the protection of children's health in Mexico where leaded gasoline and paint are still widely used and lead-glazed pottery is still made and used for cooking. No border-wide studies of lead exposure in children have been undertaken.

Accomplishments 1997:

Established a clinic in Tijuana, Mexico to measure blood lead levels in children.
Conducted a blood lead assessment in the Arizona-Sonora border region.

Expected Outcomes for 1998:

1) Develop plans for lead screening programs in other Mexican border communities; 2) Identify infrastructure (community support staff and facilities) to implement other screening programs; 3) Determine extent to which U.S. analytic and epidemiologic expertise can be mobilized to assess and remediate lead exposure problems along the border; 4) Review and update binational educational materials, resource directory and communication network.

Project Contacts:

Emilio Esteban, NCEH/CDC

(770)-488-7293

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Jonathan Ericson, Univ. of California Irvine (714) 824-5576

Juan Rauda Esquivel, DGSA (525) 203-4951

Participant(s):

TDH, NMDOH, ADHS, CDHS, EPA/ORD, CDC, PAHO, Mexican Border States (Baja California, Sonora, Nuevo Leon, Tamaulipas, Coahuila, Chihuahua), and Mexican Federal Agencies, UCI

Retrospective Study on Pediatric Asthma and Air Quality

Total Extramural \$\$ 1998:

Start Date: 9/96

Completion Date (est.): 6/98

Project Purpose:

To assess the relationship between air quality and respiratory health in children in the Paso del Norte region.

Project Description:

In response to concern about the relationship of air quality and respiratory health in children in the Paso del Norte region a retrospective epidemiologic study using hospital emergency room data has been designed. Objectives are to: 1) examine the temporal association between pediatric respiratory illness, measured by daily counts of asthma visits to emergency rooms, and daily levels of airborne contaminants; 2) explore the spatial association between residential areas of pediatric patients for respiratory illnesses and air quality; 3) work with local organizations to identify and address an environmental health concern on the U.S. Mexico border in a binational fashion; 4) initiate binational research collaboration on environmental health issues with health professionals and provide capacity building opportunities to improve and continue such research. The study area is the Paso del Norte airshed. The cities located in this airshed are El Paso, Texas, Sun Land Park, and Ciudad Juarez, Chihuahua. Parallel studies were developed in the U.S. and in Mexico. The study population is children who reside in the area and who are emergency room users at local participating hospitals. The age range was from 1 to 17 years. The study period was June 1, 1994 to December 31, 1995. The outcome is the count of daily emergency room visits by children for asthma. Data on all other pediatric emergency room visits was collected and divided into two comparison groups: other respiratory illnesses and all other illnesses. The data analysis will consist of two phases. A descriptive analysis is being conducted first to identify short and long term trends in the data. Then time series modeling will be done which will incorporate the identified trends. Geographical Information Systems (GIS) and environmental modeling will be used in the spatial analysis with the study area defined by grouping of zip codes.

Accomplishments 1997:

Analysis completed

Time series workshop conducted with Mexico study team

Presentation of preliminary results to USMBHA at 1997 annual meeting

Presentation of final results to CSTE 1998 annual meeting

Community outreach materials developed

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Expected Outcomes for 1998:

1) Complete final analysis; 2) final report; 3) final report to local border communities.

Project Contacts:

Rebecca Hart, CDC-NCEH	(770) 488-7260
Beatriz Vera, PSR Border Office	(915) 543-3223
Jim VanDerslice, UTHSPH, El Paso	(915) 747-8514

Participant(s):

UTEP, CDC/NCEH, PSR, IMSS, Ciudad Juarez

Border Health Alert and Disease Outbreak and Environmental Health Organization and Information

Total Extramural \$\$ 1998

Start Date: 1996

Completion Date (est.): 1999

Project Purpose:

To facilitate communication between border health officials and to improve access to health and environment information related to the border.

Project Description:

The objectives of this initiative are to: (1) establish and maintain a directory of border environmental and health organizations; (2) establish a Public Health alert bulletin via the Internet for public access to information regarding disease outbreaks and/or health alerts; (3) establish an electronic clearing house on environmental and/or health research conducted along the border; (4) establish an electronic health alert among "official" federal, state, tribal, and local health and environmental agencies; and (5) assist the Secretariat de Salud and other Mexican government agencies in establishing e-mail accounts and interim fax accounts to ensure effective communication between U.S. border states and Mexican border states. Various environmental and health agencies along the border are already in the process of developing portions of an environmental health directory for their respective states. The need is multifold. Not only is a list of agencies necessary, they must be cataloged in "yellow page" fashion by media-- i.e., what agency in California takes care of food issues, what agency in New Mexico takes of water issues. The alert system has developed into an "Epi-Fax" and a pilot program has been initiated in the Las Cruces-El Paso-Juarez area. A proposal to merge environmental health information/health alert into one electronic bulletin on a yet-to-be-identified web-page is under consideration.

Accomplishments 1997:

Existing epidemiology and product alert systems identified.

Listserv established for members of the Environmental Health Workgroup

Expected Outcomes for 1998:

1) Extend Epi-Fax to other states 2) Identify web-page and maintenance agency for health information; 3) Request proposal for the "yellow pages".

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Project Contacts:

Ken M. Smith, New Mexico Environment Department (505) 524-6300
Pablo Kuri Morales, SSA/DGE (525) 593-0824

Participant(s):

NMED, NMDH, CDHS, ADH, TDH, EPA, CDC, FDA, PAHO, DGSA

Advanced Training in Environmental/ Occupational Health

Total Extramural \$\$ 1998

Start Date: 1996

Completion Date (est.): 1999

Project Purpose:

To strengthen environmental health capabilities of individuals and institutions in the areas of environmental and occupational toxicology, epidemiology, engineering and risk communication in the United States-Mexico border region.

Project Description:

This project is part of a binational program to strengthen environmental health capabilities of individuals and institutions in the areas of environmental and occupational toxicology, epidemiology, engineering and risk communication in the United States-Mexico border region. Approaches include training graduate students, promoting binational faculty exchanges and border sabbaticals and developing short courses and other innovative continuing education modalities. A variety of training modalities including graduate training, short courses, faculty development and other alternative methods such as distance learning programs and computer-based courses will be utilized. The target audience will be those working in governmental and non-governmental institutions and universities in the border region. Training will focus on developing the disciplines of environmental/occupational epidemiology, toxicology, engineering and risk communication.

Accomplishments 1997:

Four scholarships have been awarded to public health workers from the border region to obtain a masters in environmental epidemiology at the National Institute for Public Health of Mexico.

Six short courses lasting 20-40 hours have been held on the Mexican side of the border covering the themes of epidemiologic evaluations of environmental and occupational disease outbreaks, occupational epidemiology, industrial hygiene, epidemiology of neural tube defects, and surveillance of pesticide intoxications.

Expected Outcome(s) for 1998:

(1) Form binational advisory commission for developing training priorities; (2) Plan a binational Risk Communication workshop in the border region to develop innovative modalities and approaches to risk communication; (3) Conduct a survey of training needs for short courses and other alternative training modalities among border institutions and develop 2-4 courses based upon priorities of other Border XXI projects; (4) Develop small research grant program with priority for those involved in advanced training in environmental health with priority given to projects prioritized by Border XXI; (5) Develop a plan for implementation of a cross-border

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training grants program and a border sabbatical program.

Project Contacts:

Sherry Baron, CDC/NIOSH (513) 458-7159

Victor Borja, DGSA/CENSA (52) 72-71-10-91

Participant(s):

PAHO, CDC/NIOSH, CDC/NCEH, ADHS, CDHS, NMDOH, TDH, NIH/Fogarty Center,
DGSA, DGE, INSP

Pesticide Exposure and Health Effects in Young Children Along the U.S.-Mexico Border

Total Extramural \$\$ 1998:

Start Date: 11/96

Completion Date (est.): 12/2002

Project Purpose:

To examine the risks and possible health effects from persistent exposure to pesticides via multiple sources and pathways in children living along the U.S.-Mexico Border.

Project Description:

A three phase approach is being used in this initiative. In Phase I, pesticide usage and associated health data along the border were reviewed. GIS is being used to identify agricultural areas to aid in the study design. A workshop on health effects assessment in young children was held to review health endpoints appropriate for use in the project. In Phase II infants and young children will be screened for evidence of pesticide exposure. Phase III will potentially include a more complete monitoring of children classified as "high end exposures" in Phase II. Follow-up of these children will include detailed measurement of environmental exposure and biological monitoring for levels of specific pesticide compounds or their metabolites. An epidemiological study will be linked to these efforts to examine specific hypotheses about the impact of pesticide exposure on health status/outcome of children.

Accomplishments 1997:

Phase I of a three-phase process was completed.

Phase II has begun.

A meeting of government officials working in pesticides was convened.

A workshop on health effects assessment in young children was held to review health endpoints appropriate for use in the project.

Increased collaboration with GIS workgroup.

Expected Outcome(s) for 1998:

December 1997 - a workshop was held to review methods for assessing health effects of pesticide exposure in young children. January 1998 - a workshop was held on exposure assessment related to pesticides. March 1998 - complete Phase I Pesticide Usage and Health Effects Reports. June 1998 - Complete GIS - crop usage - population maps. July 1998 - Initiation of Phase II Pilot Study.

Project Contact:

Hal Zenick, EPA/ORD

(919) 541-2283

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Stephen Hern, EPA/ORD (702) 798-2594
Alma Quan Torres, SSA/DGSA (525) 250-4393

Participant(s):

EPA/ORD, CDC/NCEH, ADHS, NMDOH, NMED, TDH, CDHS, [SSA/DGSA, SEMARNAP]

National Human Exposure Assessment Survey (NHEXAS) Border Project (1996-1999)

Total Extramural \$\$ 1998:

Start Date: 1996

Completion Date (est.): 1999

Project Purpose:

To provide exposure data (reference databases) for the population of the U.S./Mexico Border area of Arizona.

Project Description:

The NHEXAS Border Project is a probability-based survey of the population of Arizona in proximity to the U.S./Mexico Border. The primary objective of the NHEXAS Border Project is to provide exposure data (reference databases) for the population of the U.S./Mexico Border area of Arizona. Specific aims include: a) establish exposure databases for Arizona border residents; b) compare the exposures of the Arizona border population to the exposures of the population of the state; c) test for the effects of sources (i.e., reported product usage) on environmental, exposure, and biological media concentrations; d) test the associations between chemical measurements, between exposure and environmental media measurements, or between two (or more) exposure pathways; and e) develop exposure models (relating the environmental concentrations and questionnaire/diary data to exposures and biomarkers). The study will include the collection of questionnaire data and samples for the measurement of contaminants in the air, house dust, water, food and soil. The blood and urine of the participants will also be measured for evidence of exposure to environmental contaminants. Classes of pollutants that are potentially harmful to human health and for which little information on population exposure is available will be examined. The pollutant classes include metals, pesticides, volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs). There are multiple sources (air, water, soil, food, dusts, etc.) of exposure to these chemicals. Certain populations, including low-income individuals, minorities and the biologically susceptible, are at high risk and their exposures need to be identified. Further, little is known about temporal and spatial distributions, and trends in these distributions. The need to provide such information is urgent.

Accomplishments 1997:

Data collection completed in June 1998.

Expected Outcome(s) for 1998:

1) May 1998 - Complete field questionnaire and sample collection; 2) December 1998 - Obtain all analytical results and validate databases.

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Project Contacts:

Gary Robertson, EPA	(702) 798-2215
Mike Lebowitz, UAz	(520) 626-6379
Mary Kay O'Rourke, UAz	(520) 626-6835

Participant(s):

UAz, EPA

Texas Border Health Survey

Total Extramural \$\$ 1998:

Start Date: 1996

Completion Date (est.): 1998

Project Purpose:

To establish a baseline of environmental health conditions along the Texas-Mexico border.

Project Description:

The objective of this surveys to establish a baseline of environmental health conditions along the Texas-Mexico border. The specific aims of this project are to: (1) collect existing demographic, environmental, and health data for 2,100 randomly selected households in the principal population areas of the border (i.e., Brownsville, McAllen, Laredo, Eagle Pass, Del Rio, El Paso, and colonia areas), (2) collect data on household structure, general sanitation, health conditions, and potential sources of exposure to environmental contaminants, (3) measure blood lead levels in about 500 children 1-12 years old, (4) conduct seroprevalence of hepatitis A markers in about 500 children 1-12 years old, (5) screen for lead in ceramic pottery used for cooking and storing food, and (6) test susceptibility for microbial contamination of drinking water kept in storage containers (chlorine residual). The Texas Department of Health aims to use the results of the environmental health survey to better direct limited resources to develop border health priorities and interventions. Those activities may include assessment of environmental health education needs in order to develop interventions to modify risk factors for disease, (e.g., sanitation education, training programs), environmental monitoring, promotion of targeted health services. In addition, the border survey will contribute to the formation of active surveillance for health conditions related to environmental exposures, which may include gastrointestinal diseases, hepatitis A, pesticide poisoning, lead poisoning, and asthma. This survey will also serve as a model for other entities planning or conducting health studies or surveys along the U.S.-Mexico border (including binational and state/federal interagency activities in Texas, New Mexico, Arizona and California).

Accomplishments 1997:

Survey completed and data analysis has begun.

Blood samples for over 400 children ages 1-12 years were collected and analyzed for elevated blood lead levels and Hepatitis A positivity.

Expected Outcome(s) for 1998:

The final report will be completed and disseminated by Fall, 1998.

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Project Contacts:

Ronald J. Dutton, TDH

(512) 458-7675

Participant(s):

BHO, TDH, CDC/NCEH, EPA/ORD

The International Toxicology and Poison Control Center Development Program

Total Extramural \$\$ 1998:

Start Date: 1997

Completion Date (est.): 12/2000

Project Purpose:

To develop Toxicology Centers in the principal Mexican border cities.

Project Description:

When the centers are established, they will be used for: training, surveillance, and improvement of the community's health. Advanced training will be provided to clinical toxicologists through short courses at centers of excellence.

Accomplishments 1997:

In 1997 this initiative assigned 3 positions to the toxicology centers in Ciudad Juarez and Matamoros-Reynosa, Mexico.

Expected Outcome(s) for 1998:

Train the staff for the Toxicology Centers in Ciudad Juárez and Matamoros or Reynosa. Training will be done in the Toxicology Center at the Universidad Autónoma de Nuevo León. The training has been designed to be completed in two years, with week-long visits every six months.

Project Contacts:

Susana Cerón Mireles, DGSA/CENSA 011-52-72-71-10-86 ext. 104

Participant(s):

CENSA/DGSA/SSA, State of Tamaulipas Directorate of Sanitary Regulation and Development/SSA, State of Sonora Department of Environmental Health/DGSA/SSA, PAHO, EPA/ORD, WHO

Evaluation of the Hispanic HANES Database

Total Extramural \$\$ 1998:

Start Date: 1996

Completion Date (est.): 1998

Purpose:

To evaluate the database for usefulness as a reference (comparison) database for current and future environmental health studies involving Hispanic populations.

Project Description:

As part of the National Health and Nutritional Examination Survey (NHANES) series, Hispanic HANES sampled 12,000 Hispanics (including 7,500 in the southwester U.S.) from 1982-1984. In addition to extensive health questionnaires and physical examinations, biological fluids were collected and analyzed for various markers including some pesticides and metals. This database has undergone additional quality control checks and documentation. Precursor comparisons are being made with the NHANES-II data.

Accomplishments 1997:

Quality checks completed for NHANES-II pesticide residue and metabolite data.

Data validation in progress

Interim HHANES pesticide assessment completed.

Expected Outcome(s) for 1998:

1) Interim report "Pesticide Residues and Metabolites in Urine and Serum of Hispanic HANES Subjects", January 1998. 2) Complete data cleaning and documentation; 3) Perform preliminary and descriptive analysis of database. 4) Comparison of pesticide residues and metabolites in NHANES-II and Hispanic HANES.

Project Contacts:

Denise Lewis, EPA/NHEERL (919) 966-6385

Rebecca Calderon, EPA/NHEERL (919) 966-0617

Participant(s):

ORD/EPA

ENVIRONMENTAL INFORMATION RESOURCES
WORKGROUP
1998 IMPLEMENTATION PLANS

Environmental Information Resources Workgroup 1998 Implementation Plans

Aerial Photography Initiative

Total Extramural \$\$ 1998: \$200,000.00

Start Date: 01/01/96

Completion Date: ongoing

Project Purpose:

As part of Environmental Information Resource Workgroup there is a formal binational initiative to acquire aerial photography and create new and revised maps in the U.S.- Mexico border region.

Project Description:

Current and consistent binational geospatial data is not available and is required to develop effective and appropriate strategies for addressing Border XXI program issues. Aerial photography and digital mapping are being produced for a variety of applications such as: pollution detection and monitoring, soils classification, urban and rural planning, geologic mapping, watershed management, and water quality analysis.

Based on the requirements of SEMARNAP, Instituto Nacional de Estadística, Geografía e Informática (INEGI) will continue to acquire color infrared and black and white photography in priority areas to complete coverages of the Mexico border region.

Note: Extramural funding for 1998 only reflects EPA's contribution for fiscal year 1998.

Accomplishments 1997:

In 1997, USGS began the development of Digital Orthophoto Quadrangle (digital image of an aerial photograph in which displacements caused by the camera angles and the terrain have been removed). USGS continued development of digital line graphs (spatial representation by points, lines and areas of planimetric {roads, streams, etc.} information).

Expected Outcome(s) for 1998:

USGS will continue development of Digital Orthophoto Quadrangle (DOQ) and development of digital line graphs. Digital data is and will continue to be made available through the USGS homepage at <http://www.usgs.gov>.

Project Contact(s):

Ken Osborn (303) 202-4138 (e-mail: kjosborn@usgs.gov).

Participant(s):

DOI/USGS, SEMARNAP, INEGI, EPA

Environmental Education Cooperative Agreements

Total Extramural \$\$ 1998: \$115,000.00

Start Date: Fall 1997

Completion Date: Spring 1999

Project Purpose:

Promote environmental education opportunities in US-Mexico border communities through the mechanism of five cooperative agreements.

Project Description:

For Fiscal Year 1998, EPA anticipates funding one cooperative agreement in the state of Arizona and two in California. Two of the cooperative agreement will be implemented directly with Indian Tribes located in the US-Mexico border region.

State of California - Update:

The San Diego Natural History Museum is implementing the Environmental Education Blueprint of the California's that will create a number of products for educators working in the San Diego/Baja California region. The project is composed of four phases. In Phase I, a compilation of existing environmental education programs, organizations, and services will create an environmental education and resource matrix. In Phase II, an environmental education conference will held in San Diego in April. The conferees will be divided into specific work groups that will review the resources matrix and use their own experience to identify gaps and overlaps within the environmental education field. In Phase III, materials produced from the conference will produce a needs assessment, refine the action plans and create the "Environmental Education Blueprint for the California's" (EECC) and will establish guidelines and procedures for the creation of a council of educators. In Phase IV, a publication of the blueprint will be distributed to all conference participants and the first meeting of the EECC will take place and use the blueprint to develop strategies for implementation and fund-raising

State of Arizona - Update:

Environmental Education Exchange is implementing four workshops in the Arizona/Sonora region. The workshops have been initiated to fulfill the needs of community environmental organizations working along the border. These have been specifically designed to promote alliances between Mexican and US agencies along the border region of Sonora and Arizona through the development of cooperative environmental education programs. The workshops have also been created as an educational process that emphasizes bi-national alliances, careful analysis of local issues which help participants to visualize common environmental problems that can be responded to using existing resources which allows participants to structure new ways of working together. These workshops are also an open-ended nature process which

Environmental Information Resources Workgroup 1998 Implementation Plans

allows participants to share expectations, experiences, and information gathered in the process which is collected for future use. An action plan is also being developed to identify programs that can be funded by EPA and/or other agencies.

Accomplishments 1997:

State of California has completed phase I and phase II of its workplan. Phase I was the development of the resource matrix and for Phase II a conference of educators was held in San Diego. The state of Arizona has completed two workshops, one in Ambos Nogales and San Luis/San Luis Rio Colorado. The outcome of these two workshops have identified several environmental education needs for the Arizona/Sonora Region.

Expected Outcome(s) for 1998:

The cooperative agreement with Environmental Education Exchange will have complete their action plan that identify EE program needs for Arizona/Sonora Region. The San Diego Natural History Museum cooperative agreement will complete their blueprint for California's and create a binational council of educators to develop strategies for implementation and fundraising of the action plan.

Project Contact(s):

Lorena López 619.235-4768 (lopez.lorena@epamail.epa.gov)

Participant(s):

EPA, Environmental Education Exchange, San Diego Natural History Museum. New partners for Fiscal Year 1998 to be announced.

EcoWeb - Environmental Inventory and Directory

Total Extramural \$\$ 1998:

Start Date: October 1997

Completion Date: April 1999

Project Purpose:

(This is an update to the 1997 Implementation Plan project titled "Environmental Information Project".) The purpose of this project is to improve public access to border environmental information and data by creating (1) an inventory of information sources and (2) a directory of organizations and people dealing with U.S.- Mexico border environmental issues. This project will help achieve the objectives in the Border XXI Framework document to establish an inventory of environmental information for the border region.

Project Description:

Under a cooperative agreement with the Environmental Protection Agency, San Diego State University (SDSU) is creating an inventory of existing border environmental information on a user-friendly web-site. Examples of border environmental information would include information as specific as existing air quality monitoring data in border communities or as general as the Clean Air Act. The user will be able to search for information by environmental media, organization, or border sub-regions. The web-site will be linked to the source of the information and will allow the user to go directly to the source of the information. For each information source, there will be a description of the type of information available (metadata statements). Note that there is no new information being generated in this effort.

In addition to the inventory, there will be a directory of organizations and individuals associated with each of the information sources, such as contacts for border air quality monitoring programs.

Although not yet complete, both the directory and the inventory are currently available on the website at <http://www.borderecoweb.sdsu.edu>. In addition, the directory and the inventory will be distributed in hard copy format.

Two advisory panels have been formed to provide input to SDSU. The first is the Borderwide Advisory Panel consisting of key individuals from the border region. The Borderwide Advisory Panel will provide input to SDSU on all phases of the projects. The second the Regional Advisory Panel which will test the website at various times during its creation to provide input on the ease of use.

SDSU will also be doing outreach to border communities at public meetings and other venues to gather input from users and identify potential sources of information. In addition, the public

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and other users can provide input directly from the website.

It is expected that the first phase of this project will be completed by April 1999 and that all information links to U.S. and Mexican federal information and data will be done and that major inroads will have been into connecting to available state and local information.

Accomplishments 1997:

The cooperative agreement between EPA and SDSU was signed.

Expected Outcome(s) for 1998:

The website will up be operating, although not all information sources will be linked. The two advisory panels will be established. Extensive outreach efforts by SDSU will be done on both sides of the border. Potential sources will be identified and a number of links to these sources will be completed, including the metadata statements.

Project Contact(s):

Dave Fege (619) 235-4769 (fege.dave@epamail.epa.gov) - USEPA

Kimberly Collins, (619) 594-5423 (collin3@mail.sdsu.edu) - San Diego State University

Rolando Rios 52-5-624-3454 - INE

Participant(s):

U.S. Environmental Protection Agency

San Diego State University

Instituto Nacional Ecologico

U.S.-Mexico Border Information Network

U.S.- Mexico Border Environmental Indicators Report

Total Extramural \$\$ 1998:

Start Date: 01/01/98

Completion Date: 12/01/98

Project Purpose:

Environmental indicators serve as a fundamental tool for determining whether environmental policy addresses the most urgent environmental, human health, and natural resource issues. They can also provide clear and comprehensive information to the public on the status of the environment, human health, and natural resources in the U.S.- Mexico border.

Project Description:

Environmental indicators are measures of environmental quality that can be used to assess status and trends in the environment's ability to support human and ecological health. Performance indicators, which are also included in the report, are measures of whether programs are meeting their intended goals. Each of the nine Border XXI Workgroups is responsible for providing environmental indicators for the U.S. and Mexico border areas to the Environmental Information Resources Workgroup, which is editing and publishing the report.

The expected audience for this report includes the national government of each country, border communities, state and local agencies, tribal governments, concerned citizens and citizen groups, and industry and business groups.

[Total Extramural \$\$ 1997: \$60K]

Accomplishments 1997:

The U.S.- Mexico Border Environmental Indicators report was prepared in 1997, and will be published in early 1998.

Expected Outcome(s) for 1998:

The report will be drafted in 1998 for distribution in 1999 with the Border XXI Biennial Progress Report.

Project Contact(s):

Darrin Swartz-Larson (415) 744-1638 (Swartz-Larson.Darrin@epamail.epa.gov).
Adrián Fernández 52-5-624-3456

Participant(s):

EPA, SEMARNAP/INE

U.S. - Mexico Border XXI Homepage

Total Extramural \$\$ 1998:

Start Date: 10/01/96

Completion Date: ongoing

Project Purpose:

To create an effective mechanism of sharing information, EPA and SEMARNAP will continue development of the U.S.- Mexico Border XXI home page. This addresses the long-term goal of improving and increasing public access to information.

Project Description:

The U.S.- Mexico Border XXI Program Homepage (<http://www.epa.gov/usmexicoborder>) was published in December 1996 with the U.S. Mexico Border XXI documents (executive summary, Border XXI framework, 1996 Implementation Plans), Border Maps, Compendium of Border Related Projects receiving EPA funding and/or involving EPA participation, and links to other border-related environmental sites. These sections and documents will continue to be maintained and updated as necessary in 1998.

Accomplishments 1997:

In 1997, the U.S.-Mexico Border XXI Program Homepage included the addition of the Border XXI documents in Spanish. Additional documents for 1997, were the 1997-1998 Implementation Plans, the Draft Environmental Indicators Report for public comment, the Summary Comment and Response Report and the complete Comment and Response Report Database. The "enviro-links" section was organized into categories of similar sites to assist users in located related homepage they are interested in.

Expected Outcome(s) for 1998:

In 1998, the LaPaz agreement in Spanish and English, the 1998 Implementation Plans, and the Environmental Indicators Report will be included in the homepage. A calendar of events meetings, public forums, etc. sponsored by Border XXI workgroup will developed for the homepage. This will assist in publicizing future Border XXI meetings.

Project Contact(s):

Carmen Masó (415) 744-1750 (e-mail: maso.carmen@epamail.epa.gov).

Participant(s):

EPA, SEMARNAP/INE

**HAZARDOUS & SOLID WASTE WORKGROUP
1998 IMPLEMENTATION PLANS**

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Activities under U.S./Mexico Consultative Mechanism for the Establishment of New Sites and for Existing Sites

Total Extramural \$\$ 1998:

Start Date: Ongoing

Completion Date: Ongoing

Project Purpose:

See Project Description

Project Description:

Continue to exchange information, on a quarterly basis, on waste facilities located on both sides of the border area in accordance with the agreed upon U.S./Mexico Consultative Mechanism for the Establishment of New Sites and for Existing Sites.

Accomplishments 1997:

EPA provided INE with updated information on several potential sites.

Expected Outcome(s) for 1998:

Continued exchange of information.

Project Contact(s):

EPA Region 6: Willie Kelley 214-665-6760, Bonnie Romo, 214-665-8323, Joe Schultes,, 665-2244; kelley.willie/romo.bonnie/schultes.joseph@epamail.epa.gov

TNRCC Border Affairs Office: Steve Niemeyer, 512-239-3600; sniemeye@tnrcc.state.tx.us

EPA Region 9: Chris Reiner, 415-744-1284, 744-2096, reiner.chris @epamail.epa.gov

NMED: Ed Kelley, 505-827-2834

INE - Luis Wolf, INE

Participant(s):

EPA, INE, PROFEPA, Border States

**Arizona Department of Environmental Quality (ADEQ) Hazardous Waste
Border Activities**

Total Extramural \$\$ 1998: \$195,000.00

Start Date: Ongoing

Completion Date: Ongoing

Project Purpose:
See Project Description

Project Description:

Provide funds for hazardous waste activities specific to the Border Plan in Arizona, including: internal and external liaison for hazardous waste issues on the Arizona/Sonora border; principal participation in the Arizona/Sonora Hazardous and Solid Waste and Enforcement Subworkgroup; development and implementation of pollution prevention/waste minimization outreach activities for industries in the border region, including the maquiladora industry; technical assistance to other federal, state and local agencies and/or non-governmental organizations; provide compliance assistance workshops to U.S. and Mexico border industries and government officials, to improve their understanding of hazardous waste import/export regulations; participation in multi-agency task forces and/or study groups which address hazardous waste issues in the border.

Accomplishments 1997:

In addition to providing technical assistance on an ongoing basis to U.S. Customs, ADEQ participated in a week-long border interdiction exercise in conjunction with various agencies at the Nogales Port of Entry. The focus of the exercise was to inspect inbound and outbound shipments for potential violations of U.S. Customs, environmental, and transportation violations. An estimated 6,000 inbound and 3,800 outbound shipments were examined. ADEQ assisted the City of Nogales' Pollution Prevention Program in providing training for personnel and conducting outreach to the regulated community. Responded to requests for technical assistance and information on hazardous waste issues in the Arizona/Sonora border region from other governmental agencies, industry, academia, non-governmental organizations, and the general public.

Expected Outcome(s) for 1998:

Continuation of ongoing activities as described above. Training on Import/Export Regulations proposed for June 1998 at the Nogales Port of Entry and Oct. 1998 at the San Luis Port of Entry for U.S. Customs and Mexico Aduana personnel and other environmental enforcement /compliance regulators in the transboundary arena. Provide on-site technical assistance to U.S. Customs regarding transboundary shipments of hazardous wastes as scheduled with USCS staff.

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Conduct outreach in conjunction with the Open House's scheduled for the Arizona/Sonora border communities through the EPA SDBO and when discussion topics include hazardous waste issues. Also, participate in the HSW and Enforcement Workgroups' regional subworkgroup, and implement the AMIGO pollution prevention program.

Project Contact(s):

EPA Region 9: Chris Reiner, 415-744-2096, reiner.chris@epamail.epa.gov

ADEQ: Placido Dos Santos, Edna Mendoza, 520-628-6710, mendoza.edna@ev.state.az.us

Participant(s):

EPA, ADEQ

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Arizona-Mexico International Green Organization (AMIGO)

Total Extramural \$\$ 1998:

Start Date: 7/1/97

Completion Date: 6/30/98

Project Purpose:

See Project Description

Project Description:

The mission of AMIGO is to bring Arizona and Mexico industries together to share technologies that reduce waste and pollution and increase profits, worker safety and environmental health. Its focus is to promote pollution prevention and improve waste management practices among maquiladoras in the Arizona-Sonora border region through a voluntary, non-regulatory government-industry partnership. Activities that the partnership will promote to achieve its goals include networking opportunities; technological and information exchanges through workshops, facility tours, and personnel exchanges; and a pollution prevention conference.

Accomplishments 1997:

ADEQ developed informational brochures and membership agreement forms for the AMIGO project. Outreach was conducted to inform industry on both sides of the Arizona/Sonora border of AMIGO by conducting presentations and publishing articles in newsletters.

Expected Outcome(s) for 1998:

A pollution prevention conference in the Ambos Nogales area focused on the maquiladora industry which is scheduled for May 1998. ADEQ will promote and facilitate networking and mutual assistance opportunities between associated Arizona and Sonora industries to identify successful waste reduction activities and resolve barriers to pollution prevention in the maquiladora industry through meetings, workshops, personnel exchanges, and facility tours.

Project Contact(s):

EPA Region 9: Chris Reiner, 415-744-2096, reiner.chris@epamail.epa.gov

ADEQ: Edna Mendoza, 520-628-6710, mendoza.edna@ev.state.az.us

Participant(s):

EPA, ADEQ, PROFEPA, Maquiladora Association of Nogales, Sonora

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Border Waste WiSe Web Site Maintenance

Total Extramural \$\$ 1998:

Start Date: 10/97

Completion Date: 12/98

Project Purpose:

See Project Description

Project Description:

Maintenance and modification of the web site created under the Border Waste WiSe Program. This web site serves as a source of information on this program, as well as providing general information on solid waste reduction and recycling with an emphasis on the San Diego-Tijuana Border region.

Accomplishments 1997:

Transfer of web site to City of San Diego server; translation into Spanish of waste reduction guides for electronics and plastic injection sectors, and posting of these guides on the web site; began revision of existing translation of Spanish version of web site.

Expected Outcome(s) for 1998:

Complete translation of Spanish version of web site; continued maintenance of web site; periodic updates of web site information.

Project Contact(s):

Chris Reiner - EPA Region 9, 415-744-2096, reiner.chris@epamail.epa.gov

Yvonne Williams - City of San Diego

Participant(s):

EPA, City of San Diego

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

**Business and Environmental Performance Improvement Program for
Manufacturers in Tijuana**

Total Extramural \$\$ 1998: \$80,000.00

Start Date: Summer 1998

Completion Date: 1999

Project Purpose:

See Project Description

Project Description:

Fund the development of a business and environmental performance improvement program in partnership with industry and other organizations. The service would help manufacturers improve performance by identifying and helping to implement opportunities to reduce operating costs through efficiency gains in materials, energy and water use and waste disposal. Uses and expands partnerships developed under the Border Waste WiSe program.

Accomplishments 1997:

This is a new project.

Expected Outcome(s) for 1998:

Establishment of a program/process for program.

Project Contact(s):

EPA Region 9: Heidi Hall, 415-744-1284, hall.heidi@epamail.epa.gov

Participant(s):

EPA, INE, PROFEPA, SDSU, UABC, EDF, Cal DTSC

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

California Department of Toxic Substances Control (DTSC) Border Hazardous Waste Activities

Total Extramural \$\$ 1998: \$195,000.00

Start Date: Ongoing

Completion Date: Ongoing

Project Purpose:

See Project Description

Project Description:

Fund Border Coordinator position in the CA DTSC to support implementation of the Border Plan in California. Fund several specific border projects through the Coordinator, including: tracking of transboundary shipments of hazardous wastes through manifest and notification information; conducting surveillance and enforcement of shipments of hazardous waste that cross the Cal/BC border at the U.S. Customs Ports of Entry; providing technical assistance including binational workshops on compliance with hazardous waste regulations and pollution prevention techniques for U.S. and Mexico border industries and government officials; and participating in binational workgroups and subgroups that address hazardous waste issues in the border region.

Accomplishments 1997:

Binational Pollution Prevention Workshops were held for government officials in Tijuana, BC on 3/20/97 and for the border electronics industry in San Diego, Ca 5/15/97. Binational workshop on requirements for the importation and exportation of hazardous waste across the Cal-BC border was held in San Diego on 4/17-18/97. Information exchange between Cal and BC EPA was held in Tijuana, BC on 4/23/97. State and local environmental authorities conducted 183 truck stop events at U.S. Customs Ports of Entry along the Cal/BC border. Over 2200 vehicles were inspected for illegal shipments of hazardous waste. As a result, at least 10 cases of improper handling of hazardous waste are under investigation. \$430,000.00 in fines were collected as a result of enforcement activities pertaining to shipments of hazardous waste from Mexico into California. SDCDEH conducted 5 training classes on identifying clandestine shipments of hazardous waste for regulatory officials from Mexico.

Expected Outcome(s) for 1998:

Workshop on Hazardous Waste Classification in Tijuana, B.C. 4/23/98 and Mexicali, B.C. 4/30/98; Workshop on Pollution Prevention for the Electronics Industry 5/12/98; Workshop on Requirements for import/export of hazardous waste 6/11-12/98. Inspections of transporters bringing hazardous waste across the border are being conducted almost weekly at U.S. Customs facilities in California. Several enforcement actions are being pursued as a result.

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Project Contact(s):

DTSC - Pam LePen, 714-484-5379, hw1.plepen@hw1.cahwnet.gov

EPA Region 9: Heidi Hall, 415-744-1284, hall.heidi@epamail.epa.gov

Participant(s):

EPA, Cal DTSC, County of San Diego Department of Environmental Health (SDCDEH), San Diego State University (SDSU), PROFEPA, INE and Baja California

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

City of Nogales Environment Justice through Pollution Prevention

Total Extramural \$\$ 1998:

Start Date: 9/95

Completion Date: 10/98

Project Purpose:

See Project Description

Project Description:

This project aims to promote pollution prevention in the small business community in Nogales, AZ, with a particular emphasis on the following sectors: automotive, printing, dry cleaning and beauty salons. This will be accomplished by on-site visits to these businesses and the development and distribution of sector-specific P2 information in English and Spanish, as well as extensive print and radio outreach to the local community.

Accomplishments 1997:

Trainings conducted for staff responsible for on-site business visits; on-site visits initiated; development begun on P2 materials and community outreach materials; collection of materials begun for library of P2 reference materials to be established.

Expected Outcome(s) for 1998:

Completion of on-site visits with businesses; completion, translation and distribution of sector-specific P2 educational materials; establishment of a permanent, bilingual reference library on pollution prevention; print and radio outreach to the community on the importance of pollution prevention.

Project Contact(s):

EPA Region 9, Chris Reiner, 415-744-2096, reiner.chris@epamail.epa.gov
City of Nogales, Michele Kimpel, 520-287-6571

Participant(s):

EPA, City of Nogales

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

EPA/TNRCC Used Oil Border Initiative

Total Extramural \$\$ 1998:

Start Date: 1998

Completion Date: 1998

Project Purpose:

See Project Description

Project Description:

In partnership with TNRCC, EPA Region 6 will provide the TNRCC Region 6 El Paso Office with training, field test kits, and analytical support for monitoring used oil coming into the U.S. from Mexico to determine if it is mixed with hazardous waste. Transporters who import used oil from Mexico are subject to the requirements of Subpart E of the Used Oil Standards from the time the used oil enters the U.S. Concerns have been raised that used oil crossing the border to the U.S. may be mixed with hazardous wastes (e.g., spent solvents, heavy metals) and not properly managed in the U.S. Used oil that has been mixed with hazardous waste constituents must be managed as hazardous waste in the U.S. Transporters of imported used oil are required to determine whether the total halogen content is above or below 1,000 ppm. Mixture of used oil with hazardous waste is prohibited. If the halogen content of used oil is above 1,000 ppm, it is presumed to be mixed with significant concentrations of halogenated hazardous constituents. TNRCC will conduct random sampling of used oil shipments and those samples testing positive will be sent to an EPA laboratory for further analysis. U.S. Customs, Aduana and PROFEPA will be invited to participate in this initiative.

Accomplishments 1997:

This is a new project.

Expected Outcome(s) for 1998:

Since used oil is regulated differently in Mexico, there is a potential for used oil to be mixed with hazardous waste. This project will help provide baseline data in the El Paso Region to ensure that hazardous waste has not been mixed with used oil as it comes across the border. EPA will provide training on used oil regulations, provide field test kits and training on kits, and provide laboratory analyses for samples that test positive

Project Contact(s):

EPA Region 6: Nancy Jones, 214/665-8041, Bonnie Romo, 214-665-8323;
bender.jones.nancy/romo.bonnie@epamail.epa.gov

TNRCC Region 6 El Paso: Terry McMillan, Kent Waggoner, 915/783-9634;
tmcmillan/kwaggone@tnrcc.state.tx.us

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Participant(s): EPA, TNRCC, U.S. Customs, Aduana, PROFEPA

Hazardous Waste Management Training Course and Manual

Total Extramural \$\$ 1998:

Start Date: 1998

Completion Date: 1998

Project Purpose:

See Project Description

Project Description:

EPA, under contract with PRC (now Tetra-Tech) and input from SEMARNAP, developed a hazardous waste management course and manual to be given to regulators and policymakers from Mexico in FY97 and FY98.

Accomplishments 1997:

The course has been given in Tijuana, Monterrey, and Mexico City to a total audience of several hundred regulators, industry managers, and citizens.

Expected Outcome(s) for 1998:

The course will be offered in two or three more border cities this year, most likely Matamoros, Ciudad Juarez, and Coahuila.

Project Contact(s):

EPA Region 9: Heidi Hall 415-744-1284, hall.heidi@epamail.epa.gov

EPA Region 6: Bonnie Romo, 214-665-8323

INE: Luis Wolf, INE

Participant(s):

EPA, INE, PROFEPA, Mexican State Agencies, Tetra-Tech

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Hazardous Waste Tracking System (Haztraks)

Total Extramural \$\$ 1998: \$412,452.00

Start Date: Ongoing

Completion Date: Ongoing

Project Purpose:

See Project Description

Project Description:

Continue improving binational monitoring of hazardous waste movements into the U.S. and take enforcement actions where appropriate for import violations. Link with Mexico's new system (Oracle) and new tracking forms as it becomes operational.

Accomplishments 1997:

In 1997, EPA developed a Beta-version of Haztraks for Lotus Notes. It is currently in testing. We increased resources to the contract for report development in Foxfire! to improve Haztraks reporting functionality. Met with INE to observe Mexico's new tracking system (SIRREP) in Oracle and began work to integrate this system with Haztraks. Completed most of the Waste Code Correlation dictionary. Began conversion of Haztraks to Visual Foxpro. Continued work with Ports of Entry/Customs to collect EPA hazardous waste manifests. Investigated 48 companies importing HW through Texas; 22 companies (46%) were noncompliant. Settled 11 enforcement actions with total penalties of \$132,797. One order resulted in the first International Supplemental Environmental Project (SEP) in the country which was voluntarily undertaken by defendant and was not otherwise legally required. The SEP, costing the U.S. parent company \$200,000, resulted in an environmental benefit to a plant in Cd. Juarez removing 200,000 lbs of HW from the environment and eliminated wastewater generation. State of the art equipment was installed and operational changes were instituted to reduce air emissions to workers.

Expected Outcome(s) for 1998:

Continue tracking; improve system; link with Mexico's Aviso de Retorno and Notification. Enforce violations. Establish PROFEPA Haztraks pilot/training in Chihuahua. Expand to other PROFEPA border offices; Mexico City. Complete waste code dictionary; correlate data between Mexico/U.S. shipments.

Project Contact(s):

EPA Region 6: Joe Schultes, Bonnie Romo, AD Talton at 214-665-2244, 665-8323, 665-6651; schultes.joseph/ romo.bonnie/talton.adolphus@epamail.epa.gov
EPA Region 9: Heidi Hall, Chris Reiner, Marc Mowrey at 415-744-1284, 744-2096, 744-2061, hall.heidi/ mowrey.marc/ reiner.chris @epamail.epa.gov;
INE: Hugh Harleston, Luis Wolf

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Participant(s):

EPA, INE, PROFEPA, TNRCC, NMED, ADEQ, Cal DTSC

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Implementation of the Joint Hazardous and Solid Waste/Enforcement Subworkgroups

Total Extramural \$\$ 1998: \$20,000.00

Start Date: Ongoing

Completion Date: Ongoing

Project Purpose:
See Project Description

Project Description:
Continue planning and facilitating regional subworkgroup meetings for the Border States.

Accomplishments 1997:

The California/Baja California subgroup continued to work towards a resolution of the Seasoil issue. To date, three separate Federal and state agencies have taken numerous samples and worked with PROFEPA and locals affected by the Seasoil to characterize the material. The Arizona/Sonora subgroup undertook numerous activities, including coordinating a multi-agency, week-long border interdiction exercise at the Nogales Port of Entry and organizing a course on the Principles of Environmental Enforcement for US and Mexican officials. The Texas/Chihuahua/New Mexico Enforcement Subgroup facilitated a joint training course for U.S. Customs, Mexico's Aduana, and state environmental inspectors at the Santa Teresa Port of Entry in August 1997. This Subgroup also worked together on four different cooperative enforcement cases.

Expected Outcome(s) for 1998:

1. Two California/Baja California meetings or more: prioritization of issues for this region; strategy for opening the meetings to the public; description of purpose of group; identify and resolve regional issues. 2. At least two Arizona/Sonora meetings to identify and address regional issues and facilitate binational projects. 3. Two more subgroups are to be formed in the Texas/Coahuila area and the Texas/Nuevo Leon/Tamaulipas area and the first meetings are expected in April 1998. The Texas/Chihuahua/New Mexico subgroup plans to hold four meetings focusing on information exchange and cooperative enforcement actions. Will also continue to facilitate training for Customs and Aduana inspectors.

Project Contact(s):

EPA Region 9: Heidi Hall, Chris Reiner, John Rothman, 415-744-1284, 744-2096, 744-1353
hall.heidi/reiner.chris/rothman.john@epamail.epa.gov

EPA Region 6: Bonnie Romo, Joe Schultes, Efren Ordonez, 214-665-8323, 665-2244, 665-2181; romo.bonnie/ ordonez.efren/schultes.joseph@epamail.epa.gov

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

DTSC: Pam LePen, 714-484-5379; hw1.plepen@hw1.cahwnet.gov

ADEQ: Placido Dos Santos, 520-628-6744

TNRCC Border Office, Austin: Steve Niemeyer, 512/239-3600; sniemeye@tnrcc.state.tx.us

TNRCC Region 6 El Paso: Terry McMillan, Kent Waggoner, 915/778-9634;

kwaggone/tmcmilla@tnrcc.state.tx.us

NMED: Mike Le Scouarnec, John Tymkowych, 505-827-1508; john_tymkowych@nmenv.state.nm.us

INE: Luis Wolf, Julian Torres

PROFEPA: Antonio Sandoval, Jorge Morachis, Bio. Pilar Lopez Marco

Participant(s):

EPA, INE, PROFEPA, TNRCC, NMED, ADEQ, Cal DTSC

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Maquiladora Training on Aviso de Retorno Use

Total Extramural \$\$ 1998:

Start Date: 04/01/98

Completion Date: 07/01/98

Project Purpose:

See Project Description

Project Description:

Conduct maquiladora-sponsored trainings in the use of Mexico's new Aviso forms and new database system, the Sistema de Rastreo de Residuos Peligrosos.

Accomplishments 1997:

EPA and INE agree on need for training and training responsibilities.

Expected Outcome(s) for 1998:

1. A more informed regulated community; 2. better industry compliance; 3. better tracking of hazardous waste movement, 4. conduct three training sessions in the border region.

Project Contact(s):

EPA Region 9: Heidi Hall, Marc Mowrey, 415-744-1284, 744-2061;

hall.heidi/mowrey.marc@epamail.epa.gov

EPA Region 6: Joseph Schultes, Bonnie Romo, 214-665-2244; 665-8323

schultes.joseph/romo.bonnie@epamail.epa.gov

INE: Hugo Harleston

Participant(s):

EPA, INE, PROFEPA, Maquiladora Association

New Mexico Environment Department (NMED) Border Hazardous Waste Management Activities

Total Extramural \$\$ 1998: \$50,000.00

Start Date: Ongoing

Completion Date: Ongoing

Project Purpose:

See Project Description

Project Description:

Continue participation in Border 21 hazardous waste activities which includes: Border crossing checks for compliance with U.S. hazardous waste regulations, training and technical assistance to local authorities and federal border agencies on hazardous waste/materials inspection procedures for transporters, training and compliance assistance to the U.S. and Mexico border industry to increase their understanding of the regulations governing transboundary hazardous waste shipments; participation in the Texas/Chihuahua/ New Mexico enforcement subgroup.

Accomplishments 1997:

In coordination with U.S. Customs officials, conducted 71 border checks at three border crossings, namely the Santa Teresa port-of-entry, Columbus/Las Palomas Port-of-entry, and the Antelope Wells border crossing. Participated in numerous EPA, TNRCC, and PROFEPA meetings and training sessions related to hazardous waste transportation issues.

Expected Outcome(s) for 1998:

Maintain and promote compliance with regulations governing transboundary hazardous waste shipments. Increase knowledge of border corridor generators and transporters crossing the Mexico/New Mexico border. Participate in training with partners and organizations involved with transboundary hazardous waste shipments. In partnership with TNRCC, participate in educational outreach meetings on regulations pertaining to transboundary hazardous waste.

Project Contact(s):

EPA Region 6: Bonnie Romo, 214-665-8323; romo.bonnie@epamail.epa.gov

NMED: John Tymkowych, 505-827-1508, john_tymkowych@nmenv.state.nm.us

Participant(s):

EPA, TNRCC, County governments of Dona Ana, Luna, and Hidalgo, U.S. Customs, Aduana, U.S. DOT, PROFEPA, INE

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Sampling and Analysis Training

Total Extramural \$\$ 1998:

Start Date: 1996

Completion Date: 1998

Project Purpose:

See Project Description

Project Description:

In coordination with the Enforcement Workgroup, the Hazardous and Solid Waste Workgroup will continue to pursue training in hazardous waste sampling and analysis for inspectors in Mexico. Training will be conducted in Nuevo Laredo in March 1998 hosted by Southern Environmental Enforcement Network (SEEN).

Accomplishments 1997:

Course developed and translated

Expected Outcome(s) for 1998:

Successful training program and materials for use in further trainings.

Project Contact(s):

EPA Region 6: Efren Ordonez, 214-665-2181, ordonez.efren@epamail.epa.gov

TNRCC Border Office, Austin: Steve Niemeyer, 512/239-3600; sniemeye@tnrcc.state.tx.us

EPA Region 9: John Rothman, 415-744-1353; rothman.john@epamail.epa.gov

Partners

EPA, INE, PROFEPA, TNRCC, Cal DTSC, ADEQ, NMED, U.S. Customs, U.S. DOT, SEEN

Sistema Integral para el Reciclamiento de Desechos Organicos (SIRDO) in Tijuana (Integral System for the Recycling of Organic Waste)

Total Extramural \$\$ 1998: \$14,000.00

Start Date: Summer 1998

Completion Date: Summer 1999

Project Purpose:

See Project Description

Project Description:

SIRDO is a biotechnology which combines elements of the Aztec Chinampa and the Vietnamese double-vault latrine. The system, when used properly: prevents contamination of lakes, rivers and wetlands with sewage waste, prevents eutrophication and loss of species diversity in waterways; prevents air pollution by fecal dust; produces high quality biofertilizer; closes an economic loop by allowing people to profit from otherwise contaminating materials; is significantly cheaper than centralized sewage disposal for areas of water scarcity and rural areas; and are manufactured with recycled plastic.

Accomplishments 1997:

This is a new project.

Expected Outcome(s) for 1998:

Deployment and monitoring of up to 6 units in San Diego, and one or more colonias in Tijuana.

Project Contact(s):

EPA Region 9: Chris Reiner, 415-744-2096, reiner.chris@epamail.epa.gov

National Wildlife Federation: Sidonie Chiapetta, 202-797-6639

Participant(s):

EPA, INE, National Wildlife Federation

**Texas Natural Resources Conservation Commission (TNRCC) Border
Hazardous Waste Management Activities**

Total Extramural \$\$ 1998: \$100,000.00

Start Date: Ongoing

Completion Date: Ongoing

Project Purpose:

See Project Description

Project Description:

Strengthen compliance with the regulations for transboundary shipments of hazardous wastes through the following activities: 1. Continue to monitor and conduct inspections at six Texas international ports of entry, inspecting warehouses, transporter yards, and entities involved with managing imports of hazardous wastes. 2. Continue to provide training to facilitate information sharing and increase capability of U.S. Customs and Aduana personnel to detect illegal shipments of hazardous waste at border crossings. 3. Continue to provide training and compliance assistance workshops to U.S. and Mexico border maquiladora industry to increase their understanding of the regulations governing transboundary hazardous waste shipments.

Accomplishments 1997:

1. The El Paso Region 6 Office conducted 24 facility inspections. Two inspections (8 %) were noncompliant and were issued notices of violation (NOV). Participated with U.S. Customs and Aduana in 26 bridge inspections. The Region 15 Harlingen Office conducted 23 facility inspections and issued one NOV. Also, held 32 bridge inspections and 8 rail yard inspections. The San Antonio Region 13 Office conducted 5 warehouse inspections and two bridge inspections in Eagle Pass and Del Rio. 2. Together with EPA Region 6 provided two training sessions to U.S. Customs/Aduana in Laredo and Brownsville. Produced a training manual for these courses. 3. Together with EPA Region 6 conducted four outreach conferences for the maquiladora industry in El Paso, Laredo, Del Rio, and Brownsville.

Expected Outcome(s) for 1998:

TNRCC will continue its monitoring and inspection program. It will coordinate two training courses for U.S. Customs and Aduana and three outreach educational seminars to the U.S. and Mexico border industry on proper management of transboundary hazardous waste. Will continue to provide technical assistance and outreach to U.S. Customs officials during routine bridge inspection visits.

Project Contact(s):

EPA Region 6: Bonnie Romo, Joe Schultes, 214-665-2244, 665-8323; schultes.joseph/

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

romo.bonnie@epamail.epa.gov

TNRCC El Paso Region 6: Terry McMillan, Kent Waggoner, 915/778-9634; kwaggone/
tmcmill@tnrcc.state.tx.us - TNRCC Harlingen Region 15: Arturo Blanco, 956/425-6010
TNRCC Laredo Region 16: Jorge Bacelis, 956/791-6611

Participant(s):

EPA, PROFEPA, TNRCC, Texas Dept. Of Safety, Texas Dept. Of Health, NMED, U.S.
Customs, DOT, INE, Aduana, Maquiladora Association, Texas Border counties

Texas Natural Resources Conservation Commission (TNRCC) Border Solid Waste Management Activities

Total Extramural \$\$ 1998: \$0.00

Start Date: Ongoing

Completion Date: Ongoing

Project Purpose:

See Project Description

Project Description:

Develop and facilitate pilot projects which can serve as models for affordable municipal solid waste management (MSWM) systems, and can be replicated for use in border communities. Facilitate information sharing and develop improved networks for information exchange and coordination, among key U.S. and Mexico solid waste officials, particularly regarding MSWM problems which are common on both sides of the border.

Accomplishments 1997:

TNRCC initiated outreach and technical assistance to border local governments (LG) in order to assess level of interest and provide the framework needed to approach long-term, comprehensive solutions to these problems. Other activities include: 1. Analyzed, published, and distributed results from the survey of border county governments regarding illegal dumping. It provided important details on the scope/magnitude of the problem. 2. Responded to requests for assistance on illegal dumping and related MSW problems. 3. Completed database of potential funding resources for viable illegal dumping programs which could serve as models for other communities. 4. Coordinated with other U.S. and Mexico government agencies on common border MSW problems.

Expected Outcome(s) for 1998:

TNRCC will continue to conduct the border outreach and technical assistance described for 1997, an integral part of which is working with LGs to mitigate illegal dumping through voluntary compliance and comprehensive solutions. Initiate publication of a generic, bilingual brochure describing the impact of illegal dumping on human health and the environment and outlining proper disposal methods. Distribute camera-ready slick to border LGs. Work with LGs, colonias, and NGO's to facilitate pilots/model programs for resolving problems. Provide funding and technical assistance to LGs on components of illegal dumping solutions, including cleanup events, educational initiatives, enforcement, and collection equipment/facilities.

Project Contact(s):

EPA Region 6: Willie Kelley, Tracie Donaldson, 714-665-6760; kelley.willie@epamail.epa.gov

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

TNRCC: Linda Haynie, 512/239-6813; lhaynie@tnrcc.state.tx.us

Participant(s):

EPA, Texas Border county governments, border regional planning agencies, SEMARNAP, SEDESOL, state delegados

Hazardous and Solid Waste Workgroup 1998 Implementation Plans

Tohono O'odham Nation Port of Entry Assistance

Total Extramural \$\$ 1998: \$30,000.00

Start Date: 1998

Completion Date: 1999

Project Purpose:

See project description.

Project Description:

Provide assistance to help the Tohono O'odham identify appropriate agencies and solutions for hazardous waste and materials issues. The specific issues to address include transportation of hazardous materials and waste across Tribal lands, resources and planning for emergency response, and SARA Title III issues.

Accomplishments 1997:

This is a new project.

Expected Outcome(s) for 1998:

Clearer understanding of the hazardous and solid waste, hazardous materials, and emergency response issues facing the Tohono O'odham nation, and an action plan and list of agencies with whom they can work.

Project Contact(s):

EPA Region 9: Heidi Hall, 415-744-1284, hall.heidi@epamail.epa.gov

Participant(s):

EPA, Tohono O'odham Nation

Update 1993 Maquiladora Industry Hazardous Waste Management and Training Manual

Total Extramural \$\$ 1998:

Start Date: 1998

Completion Date: 1998

Project Purpose:

See Project Description

Project Description:

Update a 1993 EPA/SEDESOL bilingual publication which is currently out of date. The 1998 version of the bilingual maquiladora hazardous waste management and training manual is intended to support regulatory compliance activities within the maquiladora industry and waste handlers in the U.S./Mexico border area. Training with this Manual is expected to improve compliance and monitoring of the transboundary movement of hazardous wastes in the border area.

Accomplishments 1997:

This is a new project.

Expected Outcome(s) for 1998:

1998 Manual to include current EPA and SEMARNAP hazardous waste import and export requirements and applicable state environmental agency requirements. The manual will be published in English and Spanish. A compact disk version will also be developed. We hope to provide Internet access to 1998 Maquiladora Manual.

Project Contact(s):

EPA Region 6: Joe Schultes, Bonnie Romo, 214-665-8323, 665-2244; romo.bonnie/schultes.joseph@epamail.epa.gov

EPA Region 9: Heidi Hall, Chris Reiner, Wendi Shafir, 415-744-1284, 744-2096, 744-2059, hall.heidi@epamail.epa.gov

INE: Luis Wolf, INE

Participant(s):

EPA, INE, PROFEPA, Western States Project, TNRCC, NMED, Cal DTSC, ADEQ

NATURAL RESOURCES WORKGROUP
1998 IMPLEMENTATION PLANS

Natural Resources Workgroup 1998 Implementation Plans

Beyond Texas Borders Pavilion at Texas Wildlife Expo

Total Extramural \$\$ 1998:

Start Date: March 1998

Completion Date: Open

Project Purpose:

To develop a new exhibit area within Texas Wildlife Expo to create awareness of the interrelationship of natural resources and to showcase conservation efforts that transcend geopolitical boundaries and require international cooperation.

Project Description:

Texas Wildlife Expo is an annual event on its 7th year to promote outdoor recreational opportunities and to showcase conservation efforts in Texas. A number of TPWD programs are binational or international, usually in collaboration with federal entities. This new pavilion will house TPWD's international programs as well as those of other agencies and organizations. All consular delegations maintained in Texas will be invited to visit this pavilion. In addition, five families from the border region will be sponsored to participate in Expo as an environmental education activity. The families are expected to share their Expo experience with their community through schools, churches and related means.

Accomplishments 1997:

NA

Expected Outcome(s) for 1998:

To have a minimum of 30 exhibitors in the "Beyond Texas Borders" pavilion and to host five families from the border region to visit Expo.

Project Contact(s):

Maria Araujo, TPWD, (512)389-4901; FAX (512)389-4814,
email: maria.araujo@tpwd.state.tx.us

Participant(s):

Invited: DOI and SECTUR

Binational Cooperation on Soil and Water Conservation Survey, Soils, and Water Conservation Program and a Natural Resources Inventory

Total Extramural \$\$ 1998:

Start Date:

Completion Date:

Project Purpose:

In accordance with the Border XXI priorities on environmental indicators, a cooperative relationship is being developed between the U.S. and Mexican state and federal agencies that can foster the development of a transboundary natural resources inventory, soil and water conservation survey, and a soil and water conservation pilot program along the Lower Rio Grande Valley.

Project Description:

The ultimate goals will be to conduct a binational soil and water conservation survey that will be used to develop a binational soil and water conservation program. There is interest in both the U.S. and Mexico in a cooperation program that would involve integration of soil data to create seamless resource maps. The binational survey on soil and water conservation matter along stretches of the Rio Grande/Rio Bravo can result in improved irrigation practices and a reduced demand for scarce surface and groundwater. As part of this project, a soil and water conservation subgroup will be formed. NRCS will have the lead for the U.S., and will work with interested state, federal, and local agencies, as well as private land-owners to design a cooperative program.

Accomplishments 1997:

The U.S. Department of Agriculture (USDA) and the Mexican Secretariat for the Environment, Natural Resources, and Fish (SEMARNAP) signed a cooperative agreement in 1997 which was facilitated by the Transboundary Resources Inventory Program (TRIP). The USDA's Natural Resources Conservation Service (NRCS), INEGI, and SEMARNAP have held meetings to discuss the prospects of conducting a binational soil and water conservation survey, developing a binational soil and water conservation program and carrying out a binational natural resources inventory. Progress is being made in the effort to conduct a transboundary natural resource inventory.

Expected Outcome(s) for 1998:

We anticipate that the study design will be completed and the issues regarding NRCS authority to spend funds on binational projects will be resolved

Natural Resources Workgroup 1998 Implementation Plans

Project Contact(s):

Clifford Doke at USDA/NRCS

Tel: 202-690-2212

Participant(s):

Texas-Mexico Wildlife Exchange

Total Extramural \$\$ 1998:

Start Date: February 1995 **Completion Date:** Open

Project Purpose:

To provide to Mexico surplus wildlife from Texas, such as white-tailed deer, and to exchange scientific and technical information on wildlife management.

Project Description:

Texas is making surplus wildlife resources available to Mexico to restock areas or to improve wildlife densities. Landowners receiving stock pay all expenses associated with permits, trapping and transportation of the animals. Deer and wild turkey have been sent to Mexico under this cooperative project. CEMEX, the only landowner currently participating, is funding a technical assistance cooperative program with Texas A&M University at Kingsville and Universidad Autonoma de Nuevo Leon in Linares.

Accomplishments 1997:

Stocked Rio Grande turkey and white-tailed deer at the Santa Maria ranch in Nuevo Leon

Expected Outcome(s) for 1998:

To include other landowners and other states in this project.

Project Contact(s):

Maria Araujo, TPWD, (512)389-4901; FAX (512)389-4814,
email: maria.araujo@tpwd.state.tx.us

Pablo Navarro, General Direction of Wildlife/INE (525)624-3302
FAX (525)624-3588, email: pnavarro@chajul.ine.gob.mx

Participant(s):

TPWD, INE, CEMEX, TAMU-Kingsville, UANL

Texas/Tamaulipas: Sampling and Analysis of the Submerged Lands of Texas

Total Extramural \$\$ 1998:

Start Date: Summer 1997

Completion Date: Summer 1998

Project Purpose:

To create a new and expanded baseline of the coastal and riverine environmental indicators and update a survey made 20 years ago on the Texas coast. Concurrently, if the Government of Mexico wishes, a parallel survey can proceed in Tamaulipas and produce a valuable binational set of environmental indicators on the transboundary coastal environment.

Project Description:

This project will update the previous study and provide a new baseline of data on the sediment chemistry, sediment textures and benthic fauna. It will begin with a focus on the Rio Grande and Brownsville coastal area at an estimated cost of \$800,000. The data will be presented in GIS format to facilitate easy access to the data, change and trend analysis and wide dissemination of the results to the agencies, local governments and others. The design and implementation of the project will be based on the experience gained from previous studies, and the project will utilize recent advances in GIS, GPS and analytical methods to maximize efficiency, data analysis and data presentation. The entire Texas project is scheduled to be a four-year effort at a total cost of about five million dollars.

Accomplishments 1997:

The organizational and proposal definition was established in 1997 through interagency consultation in Texas and presentation to the Texas Coastal Coordinating Council (CCC).

Expected Outcome(s) for 1998:

Although the project is designed for the entire Texas coast, a FY 98-99 project is proposed in the US to cover the submerged lands in the Texas Laguna Madre, the seabed 10.6 miles out from Port Isabel, the Arroyo Colorado and the tidal reaches of the Rio Grande. If the Government of Mexico is interested, the study area can be extended into the contiguous areas of the river, the Laguna Madre system and the Gulf of Mexico in coordination with the Border XXI Natural Resources, Water and Environmental Information Resources Workgroups.

Among the many outcomes of the project are:

GIS maps of analytical results (sediment chemistry, benthic fauna, sediment texture) for all the submerged lands of Texas and the tidal Rio Grande; analysis of change over the last 20 years and a new baseline of data; information on sand resources (beach nourishment) and sediment distribution ; data on benthic toxicity and relationships with contaminants; distribution of

contaminants, relationships to depositional settings and possible contaminant sources; relationships among sediment chemistry, benthic fauna and sediment textures; reliable data for public information and improved understanding of coastal issues.

Project Contact(s):

Jay Raney and Jeri Sullivan at the UT Bureau of Economic Geology Tel: 512-471-1534 or 512-471-6285 E-mail: raneyj@begv.beg.utexas.edu or sullivanj@begv.beg.utexas.edu

Participant(s):

Project Organization: The Natural Resources-Related Interagency Work Group will take the lead in attempting to secure funding. The Texas General Land Office (GLO) or TNRCC will provide administrative oversight working in close coordination with the Texas Parks and Wildlife Department and the state, local and federal stakeholders through the CCC. The Bureau of Economic Geology will manage the project, be responsible for meeting technical objectives and oversee subcontracts (Texas A&M University at Corpus Christi, for example, has agreed to conduct some of the biologic analyses). Other agencies, especially the natural resource agencies involved with the Transboundary Resource Inventory Program (TRIP) and the Border XXI group, are encouraged to be members of a technical oversight and review advisory committee or directly participate if staff are available. The project does not require any US staff commitment from state or federal agencies, but participation is welcome. Should Mexico wish to participate, a binational structure can be developed in accordance with its wishes.

**POLLUTION PREVENTION WORKGROUP
1998 IMPLEMENTATION PLANS**

Pollution Prevention Workgroup 1998 Implementation Plans

Pollution Prevention Activity Bilingual Pollution Prevention Technical Conferences

Total Extramural \$\$ 1998: \$50,000.00

Start Date: 1996

Completion Date: 1998

Project Purpose:

In order to encourage the use of pollution prevention information, the Work Group decided to hold technical conferences for maquiladora facilities based on industrial sectors. Border XXI Priority: Promoting pollution prevention as a mechanism for solving compliance problems and continuing to promote public participation within the legal framework of each party.

Project Description:

Based on the first three bilingual pollution prevention manuals have been used as the case materials for technical conferences held in the El Paso/Ciudad Juarez and Laredo/Nuevo Laredo areas. Metal finishing and Electronics technical conferences have been held in Juarez and Laredo. A wood finishing technical conference was held in El Paso. It is anticipated that a technical conference held following publication of the textile manual will receive a great deal of attention due to the extensive presence of this industry within the border area. This project would be a continuation of the technical exchange with Mexico.

Accomplishments 1997:

This project was funded 9/30/97.

Expected Outcome(s) for 1998:

The training conference has been scheduled for the week of May 11, 1998.

Project Contact(s):

Joy Campbell (214) 665-8036.

Participant(s):

The U.S./Mexico Pollution Prevention Work Group is composed of the following agencies: EPA Region 6; EPA Region 9; EPA Office of Prevention, Pesticides, and Toxic Substances (Environmental Analysis Division and Pollution Prevention Division); Arizona Department of Environmental Quality; California Department of Toxic Substances Control; New Mexico Environment Department; Texas Natural Resource Conservation Commission; and, the Institute for National Ecology within SEMARNAP.

Pollution Prevention Outreach for Maquiladora

Total Extramural \$\$ 1998: \$50,000.00

Start Date: 1997

Completion Date: 1999

Project Purpose:

To help identify further technological and management solutions via Pollution Prevention to the border region's environmental challenges, to raise awareness and to create a dialog among maquiladora managers and government representatives.

Project Description:

The proposed Pollution Prevention Outreach Program for Maquiladoras will provide for a series of three (3) roundtable meetings to discuss the progress of pollution prevention initiatives in the U.S./Mexico border region. Based on OPPR's past successes with roundtable forums, this proposal targets border region government representatives and maquiladora managers to create more awareness of potential pollution prevention possibilities, and to enhance the application of P2 principles and techniques in the border region. The goal of these meetings will be to help identify further technological and management solutions to the border region's environmental challenges, to raise awareness and to create a dialog among maquiladora managers and government representatives. To encourage and support participation by Mexican representatives, we propose to use a portion of this grant funding to pay for travel expenses incurred by Mexican officials through attending roundtable meetings. This will be essential to allow participation by Mexican officials. Deliverables from this project include preparation of a participant list, logistics and planning for the roundtable meetings, and conduct three (3) roundtable meetings.

Accomplishments 1997:

Project was funded 9/30/97. Roundtables are currently being planned.

Expected Outcome(s) for 1998:

Roundtables to be established

Project Contact(s):

Dr. Pierre Lichaa, TNRCC (512) 239-3132
Joy Campbell, EPA (214) 665-8036

Pollution Prevention Workgroup 1998 Implementation Plans

Participant(s):

Texas Natural Resource Conservation commission (TNRCC) in coordination with federal and state representatives from the U.S. and Mexico, representatives from the University of Texas at El Paso and other U.T. campuses and Mexican universities along the border, representatives from the Center for Cleaner Technology of Mexico, maquiladora managers and maquiladora associations.

Project Title: Bilingual Pollution Prevention Hands-on Training for Auto Repair Industry along the U.S./Mexico Border

Extramural \$\$: Pending Funding

Start Date: pending

Estimated Completion Date: December 1998 (Date flexible pending funding)

Project Purpose:

WERC is working to provide technical assistance to small business along the border which form the base of our economy but do not have the financial resources to obtain technical assistance in the areas of pollution prevention and energy efficiency. Research has shown that most small businesses have a good attitude about the environment, but that they do not have the time or money to research new environmental technologies. The U.S./Mexico Border area is seeking to strengthen its manufacturing base, as well as improve its environment, by developing an improved technical assistance program for manufacturers. This will result in an improved business climate along the border. By raising awareness of the economic and environmental benefits of pollution prevention, a demand will be created for providers of pollution prevention technologies.

Who will use and benefit from this product: Owners, operators and employees of auto repair shops, vehicle dismantling, body shops, car dealers, auto salvage yards. The cities of Las Cruces and Santa Teresa, New Mexico and El Paso, Texas as well as the counties along the U.S./Mexico Borders. The increased awareness of pollution prevention techniques will decrease the amount of pollution from this sector and as a result the county and city owned landfills and water treatment facilities will receive less waste.

Project Description:

Through this proposal, the Waste-management Education & Research Consortium (WERC) of New Mexico State University and its partners - International Environmental Training and Consulting, Inc. (IET&C), Gram, Inc. and Industry Network Corporation (INC) - seek to build upon its existing pollution prevention program and its energy conservation program by enhancing the pollution prevention information resources available to Auto Repair Shops along the U.S./Mexico Border. WERC will provide and incorporate pollution prevention technical resources into its training program which will improve auto repair shop access to existing pollution prevention information resources and enhance their understanding of available pollution prevention technologies. WERC has recently been involved in providing pollution prevention training to auto repair shops, jewelry manufacturers and metal fabrication owners and employees throughout New Mexico. However, auto repair shops in the Las Cruces and El Paso areas were not targeted and have missed an important pollution prevention training opportunity

Pollution Prevention Workgroup 1998 Implementation Plans

WERC and its partners have successfully conducted pollution prevention training courses for auto repair shops, body shops and jewelry manufacturing industries. These hands on workshop included participation by owners of "green" shops in the area, discussion of examples and discussion of the costs/benefits for the owners and the municipalities.

WERC, led by NMSU's College of Engineering, is committed to providing educational and technological support in the areas of waste management, environmental remediation, and source reduction of pollution. WERC's mission is to set up an infrastructure and a program to effectively expand the world's capability to address issues associated with needs in waste management. WERC was established under a cooperative agreement with DOE in 1990. This model program was assigned the mission of demonstrating that a university/national laboratory partnership can effectively expand the nation's capability to address the issues related to management of all types of environmental problems via education and technology development.

Develop Bilingual Training Manual: WERC has produced a training manual that will be used for the auto repair shop training. However, it has only targeted English speaking citizens. We propose to create a similar, bilingual edition for Spanish speaking participants.

Develop Outreach and Training Mechanisms/Advertise and publicize: Outreach programs will be developed for the Las Cruces, Santa Teresa, and El Paso areas. Existing resources and service providers will be tapped for the training effort. Available classrooms will be located, and training dates set. Advertisement and publicity material will be developed and a list of potential attendees from the auto repair sector will be developed. A brochure on the Pollution Prevention Program will be developed and mailed to local auto repair shops, vehicle dismantling shops, body shops, car dealers, and auto salvage yards to publicize the training activities and benefits of pollution prevention. The training activities will also be publicized on the radio through community announcements, advertisements in local papers, and door-to-door invitations.

Host Workshops: Three, 3 1/2 to 4 hour pollution prevention workshops will be held. The hands on interactive workshops will be held in Las Cruces, and Santa Teresa, New Mexico and El Paso, Texas. A typical agenda is as follows:

Introduction - classroom

Introduction of goals and objectives

- What is pollution and pollution prevention techniques
- Recycling techniques
- Pollution impact on health, environment and health protection techniques

Outline evening's activities

- Shop tour 1 hour
- Discussion on related topics •Conclusions •Video

Shop tour

Stations: •batteries •waste oil •antifreeze •solvents •refrigerants •brakes

Lead poisoning prevention

Local restrictions on -•What can go down the sewer •What can go to transfer stations

Recycling options •Discussion on solvent use and auto body painting and related topics

Pollution Prevention Workgroup 1998 Implementation Plans

Conclusions •Evaluation Forms •Certificates

Project Contact(s):

Abbas Ghassemi, WERC (505) 646-1719

Joy Campbell (214) 665-8036

Participant(s):

EPA, INE (invited), Waste-management Education & Research Consortium (WERC) of New Mexico State University and its partners - International Environmental Training and Consulting, Inc. (IET&C), Gram, Inc. and Industry Network Corporation.

Border Community-Based Education on Lead-based Paint Hazards

Total Extramural \$\$ 1998: \$0.00

Start Date: Pending 1998 funding

Completion Date: December 1998 (Date flexible pending funding)

Project Purpose:

To address the concerns of border community members, children and youth, owners, operators and employees of industrial metal finishing and refining shops, auto repair shops, vehicle dismantling, body shops, car dealers, and salvage yards as well as the cities and counties along the U.S./Mexico Borders on the hazards of lead-based paint. The increased awareness of lead poisoning, the sources, the adverse health impacts, and pollution prevention techniques will improve the health of children and community members, assist the counties and cities in meeting regulatory requirements while educating the industrial sector. The training will create the awareness that chronic illnesses resulting from lead poisoning will have economic as well as long term health maintenance impacts to the communities. and groundwater. By raising awareness of the communities and youth regarding hazards associated with lead poisoning, a cleaner environment and a healthier population will result.

Project Description:

WERC and its partners will provide four informational, bi-lingual workshops for the communities listed above. Four additional workshops will be held for school districts (K-12) along the border. The team will also produce a short bi-lingual video focusing on what lead poisoning is, the potential health and environmental impacts, and how to prevent problems associated with lead poisoning. The video will focus on youth education and the potential impacts that children and youth can experience. This informational video will feature problems related to lead poisoning in the greater Las Cruces, NM and El Paso, TX areas. Past practices as well as the current use of lead based gasoline in border communities have created situations in which children are at risk for lead poisoning. These activities included application of lead based paints in homes and workplaces as well as historical operations of industrial metal finishing and refining in the border areas. Improper disposal practices in the past have resulted in contamination of the air, soil

Through this proposal, the Waste-management Education & Research Consortium (WERC) of New Mexico State University and its partners - International Environmental Training and Consulting, Inc. (IET&C), Gram, Inc. and Industry Network Corporation (INC) - seek to build upon its existing pollution prevention programs for the industrial producers as well as the community at large. This will be done by incorporating statistical data on lead contamination of air, water, and soil along the U.S./Mexico border. Populations at risk and exposure pathways for

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contamination will be examined and the data incorporated into a training program that will be understandable by the average citizen. The team will communicate complex information on the primary effects of lead on human health including mental health, fertility and birth defects, liver and kidney damage and gastrointestinal disorders to the participants.

Develop Bilingual Training Manual: WERC has produced similar training manuals that will be used as a basis for developing a lead based poisoning informational document for the U.S./Mexico Border area. However, most information has only targeted English speaking citizens. We propose to create a similar, bilingual edition manual for Spanish speaking participants. The manual will contain information related to regulatory requirements, sources of contamination and the effects of lead contamination. A manual on the resources available to the public, on education, as well as prevention of lead contamination and poisoning will be produced for English and Spanish speaking participants.

Develop Outreach and Training Mechanisms/Advertise and publicize: Outreach programs will be developed for the rural and urban population centers along the U.S./Mexico border. Existing resources and service providers will be tapped for the training effort. Available classrooms will be located, and training dates set. Advertisement and publicity material will be developed and a list of potential attendees will also be developed. A brochure on the program will be developed and mailed to the identified industrial community, other community members, and state and local government. The industrial sector will include smelters, metal finishers, local auto repair shops, vehicle dismantling shops, body shops, car dealers, and auto salvage yards to publicize the training activities and benefits of lead pollution prevention. The training activities will also be publicized on the radio through community announcements, advertisements in local papers, and door-to-door invitations.

Local Workshops: Four 3 1/2 to 4 hour pollution prevention workshops will be held. The hands-on interactive workshops will be held in Las Cruces, New Mexico and El Paso, Texas.

School District Workshops: Four 1 hour to 1 1/2 hour workshops will be held. The School Districts will identify the time frames that they are willing to set aside. The School District workshops will be a scaled down version of the local workshops.

Draft Agenda is as follows:

Introduction of goals and objectives

What is lead pollution and lead pollution prevention techniques

Identifying potential acute and chronic lead poisoning; chronic vs. subchronic

Common exposure pathways, risk, toxicity assessments

Dose response Impact on health, environment and health protection techniques

Discussion of U.S. regulatory requirements

Tour of a medical facility

Conclusions

Evaluation Forms

Certificates

Optional Task 5 -Video: The team, if requested, will also produce a short bi-lingual video

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focusing on what lead poisoning is, the potential health and environmental impacts, and how to prevent problems associated with lead poisons. The video will focus on youth education and the potential impacts that children and youth can experience. This informational video will feature problems related to lead poisoning in the greater Las Cruces and El Paso, TX areas.

A bilingual video will be submitted to the EPA and used in the workshops. Copies will be given to libraries and local community groups in southern New Mexico and Western Texas for their use.

Accomplishments 1997:

Not applicable.

Expected Outcome(s) for 1998:

Pending 1998 funding.

Project Contact(s):

Abbas Ghassemi, WERC, (505) 646-1719

Joy Campbell (214) 665-8036

Participant(s):

EPA, INE (invited U.S/Mexico Health Workgroup, Waste-management Education & Research Consortium (WERC) of New Mexico State University and its partners - International Environmental Training and Consulting, Inc. (IET&C), Gram, Inc. and Industry Network Corporation (INC)

Capacity Building for Pollution Prevention in Universities and Institutions of Higher Learning

Total Extramural \$\$ 1998: \$50,000.00

Start Date: Pending funding

Completion Date:

Project Purpose:

Universities and Institutions of Higher Learning have an ample potential for supporting the development of the services and programs of Pollution Prevention as follows:

by incorporating the concepts and practices of pollution prevention in engineering, business administration, and other industrial profession's curriculum; and to be included in all continuing education classes

to establish masters degree programs, special programs and other modes of academic certifications such as programs of certification for professionals which are currently working in industry but do not hold a degree

directly furnishing advise/counsel services, through industrial extension services and programs of applied investigations

Project Description:

This project will create a fund to support capacity building and increase promotion of information and services of pollution prevention in the Universities and institutions of advance education along the border area. In addition, the project will strengthen the initiatives of coordination between the local and state authorities, the universities and industry, to optimize the use of resources allotted to the pollution prevention program. Activities to achieve this are:

To form a workgroup to include academic directives; local and state authorities; representatives of industrial chambers of commerce and associations; and professional associations

Establish a diagnosis of the components of supply and demand of the actual market and the potential of services from pollution prevention in the border area.

To define the role which the educational institutions can assume in the improvement of quantitative and qualitative aspects of these services, such as the needs in the development of this objective.

Products as a result of these efforts are:

Pollution Prevention Workgroup 1998 Implementation Plans

A regional program of capacity development in the Universities and institutions of higher learning

Coordination and a compatibility between the official initiatives and the private sector

An increase in the offer of services of pollution prevention

Accomplishments 1997:

Project has recently been proposed, funding has not been secured.

Expected Outcome(s) for 1998:

Project has recently been proposed, funding has not been secured.

Project Contact(s):

Chem Juan Barrera, INE, (525) 624-3665, Dr. Pierre Lichaa, TNRCC, (512) 239-3139
Joy Campbell, EPA, (214) 665-8036

Participant(s):

EPA, INE, TNRCC

Pollution Prevention in Industrial Facilities in Mexico and Texas: An Inform Initiative Involving Local Community Collaboration

Total Extramural \$\$ 1998:

Start Date: 1997

Completion Date: 1998

Project Purpose:

The project goal is to encourage change in industrial operations and public policies in the region by equipping participants with skills and expertise in pollution prevention, this enabling them to work independently toward that goal once INFORM's involvement at the local level is over.

Project Description:

The geographic region extending from southern Texas across the border into Mexico faces among the most severe environmental and public health challenges resulting from toxic chemical use and waste of any industrialized region in North America. This region is home to numerous industrial facilities, many of which are using or producing toxic chemicals that directly affect the air, soil and water quality of communities located near these facilities. Aware of the tremendous challenges they face, but not content to live with these hazards, environmental leaders and local community groups in Matamoros, Mexico, and Houston, Texas--two areas facing especially severe toxic contamination are working with INFORM (1). To obtain detailed and comprehensible information on pollution prevention programs and progress within industrial facilities in the region and (2). To learn how to track ongoing improvement. This project is designed to ultimately encourage the adoption of institutionalized public policies, programs and incentives by government and industry which will promote pollution prevention and continuous environmental improvement in the industrial sector.

Accomplishments 1997:

In partnership with the Texas Center for Policy Studies, INFORM conducted a one day industrial source reduction training workshop in Matamoros, Mexico on October 19, 1997. Participants included local environmental and community groups and citizens living near one or more of the chemical manufacturing maquiladora plants.

Expected Outcome(s) for 1998:

Plans have been made for the participants to hold their first meeting with officials of Quimica Fluor, a local plant manufacturing hydrofluoric acid.

Project Contact(s):

INFORM, Marian Wise, 1(800)221-6263 ext 231
Joy Campbell, EPA (214) 665-8036

Pollution Prevention Workgroup 1998 Implementation Plans

Participant(s):

INFORM, Education Foundation of America, EPA

Small Business Border Region Compliance Pollution Prevention Initiative

Total Extramural \$\$ 1998:

Start Date: Depending on Funding

Completion Date:

Project Purpose:

To further the work of the Pollution Prevention Workgroup and the Border XXI Workplan by providing technical assistance to companies in Texas along the Texas/Mexico border as they develop pollution prevention, recycling, clean technology and compliance programs.

Increase technical information exchange at all levels of government to enhance assistance and outreach to industry.

Continue capacity building projects with federal, state and municipal authorities and industry.

Increase cooperation and coordination with other Border XXI workgroups and other entities involved in promoting pollution prevention.

Increase cooperation and coordination with other Border XXI Workgroups and other entities involved in promoting pollution prevention.

Project Description:

Build on the outcomes of a series of stakeholder roundtables held in Texas communities, including the border region, that defined the need for compliance and prevention technical assistance for small businesses. The border communities of Texas are home to a substantial number of small businesses, including manufacturers, and there is a clear need for technical assistance that addresses their particular needs in meeting Border XXI objectives outlined below.

Contract out 62 Work compliance and pollution prevention site visits in Texas border communities under the auspices of the Small Business Technical Assistance Program.

Hold a workshop sharing the findings, with confidentiality in mind, from this series of site visits. Invite government officials and other interested parties from Texas and Northern Mexico states. Provide simultaneous translation for Spanish-speaking attendees at this workshop.

Accomplishments 1997:

not applicable

Expected Outcome(s) for 1998:

not applicable

Project Contact(s):

Ms. Joy Campbell, EPA Region VI (214) 665-8036

Pollution Prevention Workgroup 1998 Implementation Plans

Justine Burt, TNRCC (512) 239-1047

Participant(s):

The Small Business Assistance Program of the Texas Natural Resource Conservation Commission, Texas Manufacturing Assistance Centers, Small Business Development Centers.

Technology Transfer and Capacity Building

Total Extramural \$\$ 1998: \$107,674.00

Start Date: 1996

Completion Date: 1998

Project Purpose:

Assist the EPA and SEMARNAP in encouraging maquiladoras to participate in voluntary environmental audits.

Project Description:

A follow-up evaluation of joint site assistance visits to maquiladoras conducted by OPPR and PROFEPA in 1995 showed that participating facilities are continuing to implement pollution prevention projects, and continuing to make waste reduction progress. This information has been forwarded to EPA and SEMARNAP for use in briefings and presentations to maquiladoras and maquiladora associations.

Accomplishments 1997:

Participating maquiladoras reported annual reductions of 4.5 million gallons of wastewater; 7,001 tons of hazardous waste and 47,789 tons of non-hazardous waste by October, 1997. They had also reduced electricity usage by 8.6 million kilowatt hours per year. Participating plants saved a total of \$5,397,306 annually through avoided disposal costs, reduced input costs and other savings due to implementation of suggestions made by OPPR and PROFEPA during the joint visits.

Expected Outcome(s) for 1998:

Three more SAVs were conducted in early 1998

Project Contact(s):

Dr. Pierre Lichaa, TNRCC (512) 239-3132

Joy Campbell, EPA (214) 665-8036

Participant(s):

EPA, TNRCC, PROFEPA

Technology Transfer and Capacity Building on Pollution Prevention with PROFEPA

Total Extramural \$\$ 1998: \$0.00

Start Date: ongoing

Completion Date:

Project Purpose:

The basic premise is to expand the concept of the Arizona Department of Environmental Quality (ADEQ) Pollution Prevention Program (P3) to the maquiladora industry within the Arizona/Sonora border area.

Project Description:

This project has evolved into the Arizona-Mexico International Green Organization (AMIGO). AMIGO will bring Arizona and Mexico industries together to share technologies that reduce waste and pollution and increase profits, worker safety and environmental health. It's focus is to promote pollution prevention and improve waste management practices among maquiladoras in the Arizona/Sonora border region through a voluntary, non-regulatory government-industry partnership. Activities that the organization will promote to achieve these goals include networking opportunities; technological and information exchanges through workshops, facility tours, and personnel exchanges; and a pollution prevention conference.

Accomplishments 1997:

ADEQ developed informational brochures and membership agreement forms for the AMIGO project. Outreach was conducted to inform industry on both sides of the Arizona/Sonora border of AMIGO by conducting presentations and publishing articles in newsletters.

Expected Outcome(s) for 1998:

A pollution prevention conference in the Ambos Nogales area focused on the maquiladora industry which is scheduled for May 1998. ADEQ will promote and facilitate networking and mutual assistance opportunities between associated Arizona and Sonora industries to identify successful waste reduction activities and resolve barriers to pollution prevention in the maquiladora industry through meetings, workshops, personnel exchanges, and facility tours.

Project Contact(s):

Edna Mendoza - ADEQ, 520-628-6710, mendoza.edna@ev.state.az.us
Heidi Hall, EPA (415) 744-1284

Participant(s):

EPA, INE, ADEQ, PROFEPA

Texas/Mexico Border Pollution Prevention Initiative

Total Extramural \$\$ 1998:

Start Date: Pending funding.

Completion Date:

Project Purpose:

The following program elements provide key activities to promote industry participation and further the goals of the Pollution Prevention Workgroup under the Border XXI program. The goals of this project are:

1. Providing technical assistance to Mexico as it develops its pollution prevention , recycling and clean technology programs.
2. Assist environmental agencies, industrial extension services, and educational institutions in Mexican states bordering Texas in developing pollution prevention and recycling training and technical assistance programs, voluntary waste reduction programs and technical assistance.
3. Build on the outcomes of a series of stakeholder roundtables to be held in the Texas/Mexico border region during the coming year to set future goals for the Pollution Prevention Workgroup of Border XXI.

Project Description:

To continue the work with our Mexican Partners on pollution prevention capacity building projects. Conduct five joint site assistance visits and subsequent follow-up visits to maquiladoras in Mexican states adjacent to Texas to encourage development of maquiladora pollution prevention teams.

Conduct two Permanent Pollution Prevention Program (P4) training events in Mexican states adjacent to Texas, with the participation of Mexican partner organizations and maquiladoras. Incorporate discussion and demonstration of a full cost accounting methods in environmental management.

Continue work with our Mexican partners to conduct two workshops on the development of community recycling facilities.

Continue work with our Mexican partners on recycling capacity building projects, to include four site assistance visits.

Pursue cross-border recycling market development opportunities in Texas and the four Mexican states bordering Texas

Build on the outcomes of a series of stakeholder roundtables to be held in the Texas/Mexico border region during the coming year to set future goals for the Pollution Prevention Workgroup of Border XXI. These roundtables will include state and federal representatives from the U.S. and Mexico, representatives from Texas and Mexican universities along the border, representatives from the Center for Cleaner Technology of Mexico, maquiladora managers and maquiladora associations.

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Accomplishments 1997:

not applicable

Expected Outcome(s) for 1998:

not applicable/pending funding

Project Contact(s):

Dr. Pierre Lichaa, TNRCC (512) 239-3132

Joy Campbell, EPA (214) 665-8036

Participant(s):

EPA, TNRCC, SEMARNAP, INE, PROFEPA, bordering Mexican universities, federal, state and local governments, maquiladora associations

Texas/Mexico Pollution Prevention Initiative-Cost Accounting for Maquiladoras

Total Extramural \$\$ 1998:

Start Date: Pending funding.

Completion Date:

Project Purpose:

This initiative seeks to reduce risks to human health and the environment by assisting maquiladora manufacturing plants and Mexican universities in developing, improving and implementing pollution prevention programs, thereby seeking to reduce the amount of waste generated by maquiladoras and ultimately reducing the amount of waste which must be returned to the United States under the terms of the La Paz Agreement.

This project affects the states bordering the Rio Grande, a priority for funding in the past, and helps to provide "seed money" to build needed services into the evolving environmental training centers at key border region Mexican universities.

Project Description:

The TNRCC through an EPA grant and in partnership with the Mexican National Institute of Ecology, has assisted in establishing pollution prevention training programs at the University of Chihuahua, the Monterrey Institute of Technology and has assisted the University of Juarez in establishing a training program. Completion of this process is needed by incorporating a recently developed OPPR pollution prevention full cost accounting module to this training program. The module, which can be loaded on a personal computer, allows a facility to compare costs of implementing different pollution prevention options or compliance projects, with all costs taken into account.

The environmental centers being established now at border region Mexican universities will be at a stage in their development where modern management tools such as the full cost accounting module will be useful and appropriate to incorporate into environmental training offered to industry. In addition, this would be an essential tool to collect data as an environmental indicator to measure the effectiveness of pollution prevention efforts under the U.S./Mexico Pollution Prevention Workgroup.

Accomplishments 1997:

Funding pending/ not applicable

Expected Outcome(s) for 1998:

Funding pending

Project Contact(s):

Pollution Prevention Workgroup 1998 Implementation Plans

Dr. Pierre Lichaa, TNRCC, (512) 239-3132
Joy Campbell (214) 665-8036.

Participant(s): EPA, SEMARNAP, INE, PROFEPA, Pollution Prevention Workgroup:
Mexican state, local and federal environmental agencies, maquiladora associations, universities
and the TNRCC.

**Toxic Release Inventory/Mexican Pollutant Release and Transfer Register
(TRI/PRTR)**

Total Extramural \$\$ 1998: \$15,000.00

Start Date: 9/30/1997

Completion Date: 8/31/1998

Project Purpose:

Translation of the PRTR manual for the Cellulose Industry which can then be made available for distribution along the border.

Project Description:

Mexico has completed their PRTR for 15 industry sectors. This information will be useful as a data source for a bi-national set of indicators. Currently, the U.S. and Mexico will be translating the PRTR manual for the Cellulose Industry for a bilingual manual will be available for distribution along the U.S./Mexico border.

Accomplishments 1997:

The contract for the translation has been established. The first draft has been sent to Mexico and the workgroup members for their review.

Expected Outcome(s) for 1998:

The final version of the bilingual manual will be available for distribution.

Project Contact(s):

Dra. Rina Aguirre, INE (525) 624-3447
Joy Campbell, EPA (214) 665-8036

Participant(s):

EPA, INE, TNRCC, ADEQ, CAL-EPA, NMED

Workshops on Pollution Prevention Techniques

Total Extramural \$\$ 1998: \$0.00

Start Date: ongoing

Completion Date:

Project Purpose:

To exchange information on and promote the use of pollution prevention techniques and minimize the generation of hazardous waste in the California-Baja California border region.

Project Description:

Provide workshops to California-Baja California border industries and government officials on pollution prevention techniques. The activities described in this section were previously listed in the 1997 Implementation plan under the following 2 headings: 1) Technical Assistance to Mexican Environmental Agencies and 2) Industry Workshop on pollution prevention techniques.

A pollution prevention workshop was held in Tijuana, Baja California on March 20, 1997 for federal, state and local government officials. The workshop included presentations on specific techniques for promoting pollution prevention among the wood furniture manufacturing, painting and metal finishing industries.

A Pollution Prevention workshop for the electronics industry was held in San Diego, California on May 15, 1997. The workshop was attended by industry representatives from both sides of the border.

Accomplishments 1997:

N/A

Expected Outcome(s) for 1998:

A Pollution Prevention workshop for the electronics industry will be held in Tijuana, Baja California on May 12, 1998.

Project Contact(s):

Pamela LePen

(562) 590-5909hw1.plepen@hw1.cahwnet.gov

Dan Garza

(916) 322-5798hw1.dgarza1@hw1.cahwnet.gov

Heidi Hall (415)744-1284

Participant(s):

Cal-DTSC, SDSU-IRSC, Dept. De Ecologia de Baja California, EPA, INE, PROFEPA, SEMARNAP

**WATER WORKGROUP
1998 IMPLEMENTATION PLANS**

Water Workgroup 1998 Implementation Plans

**Binational Interagency Program for Routine Surface Water Quality
Monitoring Along the International Reach of the Rio Grande (Rio Bravo)**

Total Extramural \$S 1998: \$100,000.00

Start Date: FY97

Completion Date: FY99

Project Purpose:

To further the development of a consistent binational water quality sampling and monitoring program.

Project Description:

Develop binational (US/Mexico) sampling manuals describing protocols for a wide range of constituents. Each manual will be developed in modules addressing specific mediums: Water, Biological, Habitat and Sediment.

Accomplishments 1997:

The workplan and Interagency Agreement with the U.S. Geological Survey will be completed by April 1998.

Expected Outcome(s) for 1998:

The draft binational manual describing methods for sampling will be completed by April 1998.

Project Contact(s):

Forrest John, (214) 665-6679

Participant(s):

TNRCC, EPA, US/Mexico IBWC, CNA, USGS

Binational Water Supply Operator Training and Translation

Total Extramural \$ 1998: \$150,000.00

Start Date: FY95

Completion Date: FY99

Project Purpose:

Technical transfer of source water protection and treatment techniques.

Project Description:

System and Wastewater Plant Operators will be trained in the importance of source protection (for both surface and groundwater supplies); treatment techniques and the importance of testing and quality control; and methods to maintain the treatment plant and collection system. Also, three manuals will be translated from English to Spanish.

* Guidance Manual on the development and implementation of local discharge limitations under the pretreatment program.

* Industrial User Permitting Guidance Manual.

* Industrial User Inspection and Sampling Manual for POTW's.

Accomplishments 1997:

Two training courses were held in Fall 1996, and the first manual started the process of translation.

Expected Outcome(s) for 1998:

The training courses should be wrapping up, and all three manuals should become translated.

Project Contact(s):

Mike Vaughan, (214) 665-7313

Fernando Roman, WEAT, (210) 795-2600

Participant(s):

Water Environment Association of Texas (WEAT), EPA

Water Workgroup 1998 Implementation Plans

Binational Water Supply Operator Training and Translation

Total Extramural \$\$ 1998: \$150,000.00

Start Date: FY95

Completion Date: FY99

Project Purpose:

Bilingual training for water supply and treatment plant operators and managers.

Project Description:

To provide bilingual training for water treatment and distribution operators and managers in the US/Mexico border region, principally the Rio Grande River Basin. Also, to translate six Texas Engineering Extension Service manuals from English to Spanish.

Accomplishments 1997:

Conducted a training class in Monterrey, Mexico in November 1996. Texas Section American Water Works Association (TXAWWA) identified manuals to be translated into Spanish.

Expected Outcome(s) for 1998:

Continue conducting training classes, begin translating the six manuals.

Project Contact(s):

Mike Howe, TXAWWA, (512) 238-9292

Mike Vaughan, (214) 665-7313

Participant(s):

TXAWWA, EPA

**Border Environmental Cooperation Commission (BECC) Project
Development Assistance Program (PDAP)**

Total Extramural \$\$ 1998: \$10,000,000.00

Start Date: FY96

Completion Date: FY98

Project Purpose:

Facilitate the expansion and improvement of water and wastewater environmental infrastructure in the United States-Mexico border region by providing coordinated financial support for the evaluation and design of projects.

Project Description:

The PDAP is a technical assistance program administered by BECC to assist communities on both sides of the border in developing water and wastewater projects. The assistance is in the form of grants to fund the costs of the consultants provided to the community.

Accomplishments 1997:

PDAP program was approved by the EPA allowing PDAP funds to be available for assistance to communities.

Expected Outcome(s) for 1998:

Communities will receive grant assistance for project development.

Project Contact(s):

Oscar Cabra Jr., P.E., (214) 665-2718

Jaime Tinoco Rubi, CNA, (5) 299 8650

Javier Cabrera, COCEF, (16) 29 2395

Participant(s):

BECC, CNA, EPA

Characterization of Trans-International Boundary Aquifers in Southwest New Mexico

Total Extramural \$\$ 1998: \$0.00

Start Date: FY97

Completion Date: FY98

Project Purpose:

Characterize and quantify groundwater of the trans-international boundary aquifers in southwest New Mexico and northern Mexico.

Project Description:

This Phase II project will identify all trans-boundary aquifers, quantify the natural and induced chemical quality of each aquifer, characterize and quantify the available water supply of each aquifer, determine the direction of ground water flow and its relationship to the streams and incorporate the information into GIS coverages for the region located in southwest New Mexico and northern Mexico. This study will compile the New Mexico information component for data sharing with the Republic of Mexico.

Accomplishments 1997:

Geographic coverages of the area have been gathered and integrated into the study's GIS, water quality data has been obtained from the Mexican government and is being reviewed for quality assurance purposes, available water quality data in the U.S. portion of the study area has been gathered and is being reviewed for accuracy and quality assurance, and coordination meetings with the project participants have been conducted and scheduled as needed.

Expected Outcome(s) for 1998:

The first draft of the unilateral report will be submitted to EPA for review and comment during the third quarter of FY98. The final report will be released on September 30, 1998. A binational data base will be released upon receipt of permission to publish the data from the Mexican government.

Project Contact(s):

Bobby Creel, NMWRRI
Ken Williams, (214) 665-7129
Mike Vaughan, (214) 665-7313

Participant(s):

CILA, USGS, NMED, NMEO, US IBWC, EPA

**Characterization of Transboundary Aquifers Del Rio/Eagle Pass Regions of
the U.S./Mexico Border**

Total Extramural \$\$ 1998: \$0.00

Start Date: FY97

Completion Date: FY98

Project Purpose:

Characterize and quantify groundwater of the trans-international boundary aquifers in southwest New Mexico and northern Mexico.

Project Description:

This project will identify all transboundary aquifers, quantify the natural and induced chemical quality of each aquifer, characterize and quantify the available water supply of each aquifer, determine the direction of ground water flow and its relationship to the streams and incorporate the information into GIS coverages for the region located in Texas and Mexico along the U.S./Mexico border. This study will compile the Texas information component for data sharing with the Republic of Mexico.

Accomplishments 1997:

Available water quality data in the U.S. portion of the study area has been gathered and is being reviewed for accuracy and quality assurance.

Expected Outcome(s) for 1998:

The first draft of the Phase II unilateral report for the Del Rio/Eagle Pass segment of the study will be submitted to EPA for review and comment during FY98.

Project Contact(s):

Radu Boghici, TWDB,
Ken Williams, (214) 665-7129
Mike Vaughan, (214) 665-7313

Participant(s):

CNA, TWDB, US/Mexico CILA

**Circuit Rider Technical Assistance for Public Water Systems along
TX/Mexico Border**

Total Extramural \$\$ 1998: \$0.00

Start Date: FY97

Completion Date: FY98

Project Purpose:

To improve water service to customers, maintain adequate levels of service to customers, and achieve compliance with drinking water standards.

Project Description:

Funding is for a Texas Rural Water Association circuit rider technical assistance program to public water systems along the Texas/Mexico border.

Accomplishments 1997:

Accomplishments included; worked with Colonia Nuevo and the City of Donna to resolve a billing issue; worked with a surface water plant in Maverick County to improve surface water treatment operations, and assisted various small communities in rate setting matters and in completing Certificate of Convenience and Necessity applications.

Expected Outcome(s) for 1998:

Continued technical assistance with a focus on those systems needing additional training and assistance. Capacity development activities will also be stressed in this technical assistance program.

Project Contact(s):

George Freitag, TNRCC,
David Reazin, (214) 665-7501
Mike Vaughan, (214) 665-7313

Participant(s):

TNRCC, EPA, Texas Rural Water Association (TRWA)

Comprehensive Performance Evaluation Grant for Facilities along the US-Mexico Border

Total Extramural \$\$ 1998: \$0.00

Start Date: FY97

Completion Date: FY98

Project Purpose:

To perform comprehensive performance evaluations of public water supply systems located along the U.S.- Mexico border.

Project Description:

The project will build on activities already initiated by the Texas Natural Resource Conservation Commission (TNRCC) as part of its Public Water System Supervision program. The project will allow the TNRCC to focus additional resources on treatment plants located within 60 miles of the U.S.- Mexico border.

Accomplishments 1997:

During FY97, the TNRCC participated in five (5) comprehensive performance evaluations (CPEs) which were conducted at sites along the Rio Grande River. The project focused on systems serving at least 10,000 persons.

Expected Outcome(s) for 1998:

Efforts will continue on systems serving fewer than 10,000 persons.

Project Contact(s):

Jack Schultes, TNRCC,
David Reazin, (214) 665-7501
Mike Vaughan, (214) 665-7313

Participant(s):

TNRCC, EPA, Texas Engineering Extension Service (TEEX)

Water Workgroup 1998 Implementation Plans

Conceptual Planning for Binational Wastewater Management Facility

Total Extramural \$\$ 1998: \$60,000.00

Start Date: FY98

Completion Date: FY99

Project Purpose:

Identify issues (i.e., legal, environmental, international) related to a binational wastewater management facility.

Project Description:

Investigate the possibility for joint management of wastewater treatment and reuse within two sister cities along the U.S./Mexico border in Texas.

Accomplishments 1997:

N/A

Expected Outcome(s) for 1998:

Initiate the study.

Project Contact(s):

Oscar Cabra Jr., P.E., (214) 665-2718

Participant(s):

EPA, CNA, US/Mexico Sections IBWC, Mexican/Texas State & Local Governments.

Ground-Water Monitoring In The El Paso, Texas Area

Total Extramural \$\$ 1998: \$0.00

Start Date: FY98

Completion Date: FY98

Project Purpose:

Acquire data for management of water resources.

Project Description:

This is a continuing ground-water monitoring program to collect water-level, water-use, and water-quality data in El Paso, Ft. Bliss, and the well fields in southern Dona Ana County, NM used by El Paso. The data also is useful to water managers in Ciudad Juarez and the Mexican Federal Government.

Accomplishments 1997:

N/A

Expected Outcome(s) for 1998:

Continuation of the established ground-water monitoring program.

Project Contact(s):

Linda Weiss, USGS, (505) 262-5301

Participant(s):

El Paso Water Utilities and Public Service Board, U.S. Army, Fort Bliss

Water Workgroup 1998 Implementation Plans

Interagency Agreement between EPA Region 6 and the International Boundary and Water Commission (IBWC)

Total Extramural \$\$ 1998: \$10,000,000.00

Start Date: FY95

Completion Date: FY98

Project Purpose:

Interagency Agreement between EPA Region 6 and the International Boundary and Water Commission (IBWC) to assist Mexico's planning process for wastewater treatment facilities.

Project Description:

During FY95, EPA Region 6 entered into a \$10 M interagency agreement with the U.S. Section of the International Boundary Water Commission (IBWC) for assisting Mexico in their planning process for wastewater infrastructure. The projects that are involved are in Reynosa, Piedras Negras, Ciudad Acuna, Mexico.

Accomplishments 1997:

Technical planning assistance through associated task orders were defined and initiated.

Expected Outcome(s) for 1998:

Technical task orders for Reynosa, Piedras Negras and Ciudad Acuna, Mexico completed. Initiate technical planning assistance through associated task orders for Nuevo Laredo and Matamoros, Mexico

Project Contact(s):

Oscar Cabra Jr., P.E., (214) 665-2718
Jaime Tinoco Rubi, CNA, (5) 299 8650
Luis Antonio Rascon, CILA (16) 13 9942

Participant(s):

IBWC, CILA/IBWC, EPA, CNA

Lower Colorado/New River Toxics Survey

Total Extramural \$\$ 1998: \$0.00

Start Date: 1994

Completion Date: 1998

Project Purpose:

The purpose is to monitor the Lower Colorado and New Rivers for toxic pollutants.

Project Description:

The U.S. and Mexico collected samples on two occasions from the Lower Colorado River and from the New River and analyzed them for conventional and toxic pollutants.

Accomplishments 1997:

Results of the analyses were compiled and preparation of a draft binational report was initiated.

Expected Outcome(s) for 1998:

A final report summarizing the results will be issued.

Project Contact(s):

Doug Eberhardt, EPA, 415-744-1280, eberhardt.doug@epamail.epa.gov

Dr. Francisco Oyarbazal, CNA/Baja California, (65) 52 8682

Luis Antonio Rascón, CILA, (16) 13 9942

Dr. Raymundo Aguirre, IBWC, 915-832-4149

Participant(s):

EPA, CNA, IBWC, USGS, SWRCB, DFG, UCD, RWQCB 7, ADEQ, ADGF

Mexicali Wastewater Operator Training

Total Extramural \$\$ 1998: \$0.00

Start Date: 1997

Completion Date: 1998

Project Purpose:

The purpose is to provide training to wastewater operators in Mexicali.

Project Description:

Dr. Ken Kerri will develop and implement operator training materials and programs specifically targeted for selected wastewater collection system and lift station technologies in use in Mexicali.

Accomplishments 1997:

Dr. Kerri worked with officials from Mexicali to define the technologies to be targeted. Preparation of the training materials was initiated.

Expected Outcome(s) for 1998:

Dr. Kerri will complete and implement the training materials and programs.

Project Contact(s):

Eugenia McNaughton, EPA, 415-744-1162, mcnaughton.eugenia@epamail.epa.gov

Dr. Ken Kerri, 916-278-6142

Miguel Angel González, CESPM, (65) 57 1550

Participant(s):

Dr. Kerri, EPA, CESPM, CNA, IBWC, Baja California Department of Ecology, SWRCB, RWQCB7

Mexicali Wastewater Infrastructure

Total Extramural \$\$ 1998: \$0.00

Start Date: 1995

Completion Date: 2000

Project Purpose:

The purpose is to improve public health and environmental quality by constructing needed wastewater infrastructure.

Project Description:

The project consists of the planning, design and construction of wastewater infrastructure. Components include the rehabilitation of the existing collection, conveyance and treatment system (total cost = \$7.6 million; EPA share \$4.2 million) and the construction of a new treatment system (total cost = \$50 million; sources to be determined in cooperation with NADBank).

Accomplishments 1997:

Construction occurred on several of the rehabilitation projects. Plans for the new system were certified by the BECC. Pretreatment and operator training were discussed binationally.

Expected Outcome(s) for 1998:

Construction of the rehabilitation projects will be completed and construction of the new treatment plant will be initiated. Discussions regarding pretreatment and operator training will continue.

Project Contact(s):

Eugenia McNaughton, EPA, 415-744-1162, mcnaughton.eugenia@epamail.epa.gov
Jaime Tinoco Rubi, CNA/CAF, (5) 229 8650, jtinoco@gsmn.cna.gob.mx

Participant(s):

EPA, CNA, IBWC, CESPM, SWRCB, RWQCB 7, City of Mexicali, Imperial County

Naco Water Quality Monitoring

Total Extramural \$\$ 1998: \$0.00

Start Date: 1996

Completion Date: Ongoing

Project Purpose:

The purpose is to determine the quality of surface and groundwater in the area of Naco, Arizona.

Project Description:

The International City and County Management Association is conducting a water quality monitoring program in the Naco/Agua Prieta/Cananea area. The aquifer in the area is used as a public water supply and there is concern that it could become contaminated. EPA provided \$30,000 to ADEQ in 1997 to support laboratory analysis of samples collected in the U.S. by ADEQ.

Accomplishments 1997:

Water quality samples were collected and analyzed by ADEQ.

Expected Outcome(s) for 1998:

No additional funding for sample analysis will be provided, but EPA will continue to fund a position at ADEQ to allow them to participate in the project. Between 1993 and 1997, EPA provided over \$600,000 to ADEQ to enable them to participate and provide technical assistance on this and similar border water quality projects.

Project Contact(s):

Mario Castañeda, ADEQ, 602-207-4409
Ignacio Castillo, CNA/GSCA, (5) 595 4453

Participant(s):

ADEQ, CNA, EPA

National Stream Quality Accounting Network (NASQAN)

Total Extramural \$\$ 1998: \$337,000.00

Start Date: FY96

Completion Date: FY98

Project Purpose:

Acquire data for assessing the quality of the Rio Grande River.

Project Description:

The objectives of the U.S. Geological Survey's (USGS) NASQAN program are (1) to provide an ongoing characterization of the concentrations and flux of sediment and chemicals in the Rio Grande, (2) to determine regional source areas for these materials, and (3) to assess the effect of human influences on observed concentrations and flux. Streamflow data at these stations are collected and published by the International Boundary and Water Commission (IBWC).

Accomplishments 1997:

In order to determine appropriate times to sample at the stations, the USGS has installed Data Collection Platforms (DCPs) at each station to allow real-time satellite transmission of river-stage data. Water-quality data collected at eight sites from El Paso to Brownsville, TX, during FY 97 were published in the annual USGS data report. The data is also available digitally from the USGS's National Water Information System and in interpretative reports.

Expected Outcome(s) for 1998:

With approval from IBWC, river-stage data will be available to the public over the internet from the USGS Texas District's Homepage. Water-quality data will be published and made available digitally from the National Water Information System. A fact sheet about the Rio Grande NASQAN activities will be published by Spring of 1998.

Project Contact(s):

Dee Lurry, USGS, (512) 873-3071

Participant(s):

USGS, US IBWC

National Watershed Project, Texas Case Study

Total Extramural \$\$ 1998: \$126,000.00

Start Date: FY98

Completion Date: FY98

Project Purpose:

The purpose of this case study is to create a standardized, NSDI Framework-compliant watershed database for the Lower Rio Grande Basin, in order to demonstrate the overall feasibility of the process and products.

Project Description:

Specifically, the project will (1) develop automated procedures to delineate 1:24,000 scale watersheds using USGS's 1:24,000 scale digital hydrographic, hypsographic, and elevation source data sets with 1:12,000 scale digital orthoimagery; (2) delineate watershed boundaries at all mapped stream confluences and other hydrologically significant points; (3) attribute the watersheds with standard basin characteristics; (4) attribute the watersheds using FGDC Framework-compliant HUCs extended to the 12-digit sub-watershed; (5) maximize cooperative opportunities for end users to participate in the creation of the watersheds database; and (6) demonstrate to how to implement a watershed delineation project.

Accomplishments 1997:

N/A

Expected Outcome(s) for 1998:

A portion of 85, 7.5 minute quadrangles in the Lower Rio Grande Basin below Falcon International Reservoir will be completed.

Project Contact(s):

Randy Ulery, USGS, (512) 873-3058
Jean W. Parcher, USGS, (303) 202-4380

Participant(s):

USGS

Nogales Groundwater Monitoring

Total Extramural \$\$ 1998: \$0.00

Start Date: 1993

Completion Date: 1998

Project Purpose:

The purpose is to determine the extent of volatile organic compounds in the transboundary aquifer under Nogales Wash in ambos Nogales, which could pose a public health threat.

Project Description:

The project consists of the construction and monitoring of wells on each side of the border. In 1993 and 1994, EPA provided a total of \$265,000 to IBWC and ADEQ for this project.

Accomplishments 1997:

Collection and analysis of groundwater samples was completed.

Expected Outcome(s) for 1998:

A binational report describing the results of the analyses will be prepared and issued.

Project Contact(s):

Mario Castañeda, ADEQ, 602-207-4409, castaneda.mario@ev.state.az.us
Rubén Chávez, CNA/GAS, (5) 663 2217

Participant(s):

ADEQ, CNA, EPA, IBWC, CNA, COAPAES

Nogales Water and Wastewater Infrastructure

Total Extramural \$\$ 1998: \$0.00

Start Date: 1995

Completion Date: 2001

Project Purpose:

Improve public health and the environment by providing reliable drinking water and wastewater infrastructure to ambos Nogales.

Project Description:

The project consists of a drinking water component and a wastewater component. The objective of the drinking water component, which has been certified by BECC, is the sustainable development of the Nogales, Sonora, water supply. Funding for this component is being determined. The objectives of the wastewater component include the immediate rehabilitation of the collection systems in the U.S. (total cost = \$3.4 million; EPA share = \$2.1 million) and in Mexico (total cost = \$3.9 million; EPA share = \$2.1 million) and the planning, design, and construction of additional treatment capacity. EPA is providing the funding for the planning phase, through the IBWC. Funding for construction will be determined in cooperation with NADBank.

Accomplishments 1997:

Several projects to rehabilitate the wastewater collection systems were completed and additional projects were initiated. Several alternatives for providing additional treatment capacity were developed.

Expected Outcome(s) for 1998:

The rehabilitation projects will be completed and a proposal for providing additional treatment capacity will be presented to BECC for certification.

Project Contact(s):

Evelyn Wachtel, EPA, 415-744-1167, wachtel.evelyn@epamail.epa.gov
Jaime Tinoco Rubi, CNA/CAF, (5) 229 8650, jtinoco@gsmn.cna.gob.mx

Participant(s):

CNA, EPA, IBWC, ADEQ, City of Nogales (Arizona),

Nogales Wellhead Protection

Total Extramural \$\$ 1998: \$0.00

Start Date: 1993

Completion Date: 1998

Project Purpose:

The purpose is to protect the quality of the groundwater in the transboundary aquifer under the ambos Nogales/Santa Cruz River area.

Project Description:

The project consists of the development and implementation of wellhead protection strategies to protect the aquifer from activities on land near groundwater wells and recharge areas. Between 1993 and 1997, EPA provided over \$288,000 for this project.

Accomplishments 1997:

The City of Nogales, Arizona, began implementing management strategies identified in earlier stages of the project. Santa Cruz County began expanding the project into adjacent portions of the Santa Cruz basin in the U.S.

Expected Outcome(s) for 1998:

Implementation of the program will continue. Discussions for extending the concept into Mexico are possible.

Project Contact(s):

Michele Kimpel, City of Nogales, Arizona, 520-287-6571

Participant(s):

City of Nogales, Arizona; EPA; CNA; ADEQ; Santa Cruz County

Water Workgroup 1998 Implementation Plans

**North American Development Bank (NADBank)/
Border Environment Infrastructure Fund**

Total Extramural \$\$ 1998: \$60,000,000.00

Start Date: FY97

Completion Date: FY98

Project Purpose:

Facilitate the expansion and improvement of water and wastewater environmental infrastructure in the United States-Mexico border region by providing coordinated financial support for the construction of projects and related activities.

Project Description:

To assist in the construction of drinking water and wastewater projects to the extent that such funds, in combination with other funding sources, are needed to make projects affordable to communities on both sides of the border.

Accomplishments 1997:

BEIF funding eligibility was established for projects in Ciudad Juarez, Tijuana, Naco in Mexico and for Alton, Texas.

Expected Outcome(s) for 1998:

Fund Ciudad Juarez, Tijuana, Naco in Mexico and Alton Texas. U.S. project BEIF funding eligibility for El Paso, Del Rio, El Paso Lower Valley Water District, and Donna, Texas. U.S. project BEIF funding eligibility for Calexico and Patagonia, Arizona. Mexico project BEIF funding eligibility for Reynosa and Mexicali.

Project Contact(s):

Oscar Cabra Jr., P.E., (214) 665-2718
Terri Kelley, (214) 665-6797
Raul Rodriguez, BANDAN, (210) 231-8000
Jaime Tinoco Rubi, CNA, (5) 229 8650

Participant(s):

North American Development Bank, EPA, CNA

Occurrence and Distribution of Dissolved Hydrophobic Organic Contaminants

Total Extramural \$\$ 1998: \$31,000.00

Start Date: FY97

Completion Date: FY98

Project Purpose:

To assess the occurrence, distribution, and estimated dissolved concentrations of select hydrophobic organic compounds in a portion of the Rio Grande Basin.

Project Description:

Semi-Permeable Membrane Devices (SPMDs) will be deployed at seven sites on the Rio Grande from below the confluence with the Rio Conchos to Brownsville. SPMDs passively simulate the bioconcentration of dissolved bioavailable compounds, including organochlorine pesticides, PCBs, and PAHs.

Accomplishments 1997:

Deployment and recovery of SPMDs was performed during the period July-September 1997. Five SPMDs were recovered and sent to the laboratory for analysis. Devices deployed at Brownsville and in Manadas Creek in Laredo could not be recovered.

Expected Outcome(s) for 1998:

An SPMD will be re-deployed at the Brownsville site in October. All SPMD extracts will be analyzed at the USGS's National Water Quality Laboratory in Denver, CO., the data interpreted, and a USGS interpretative fact sheet published.

Project Contact(s):

Bruce Moring, USGS, (512) 873-3085

Participant(s):

TNRCC, USGS

Water Workgroup 1998 Implementation Plans

**On-line, Bibliographic Information On Historical Biological Data Sets From
Studies On The Lower Rio Grande**

Total Extramural \$\$ 1998: \$8,300.00

Start Date: FY97

Completion Date: FY98

Project Purpose:

Development of an on-line, user friendly database system design to retrieve data set on biological studies which target the Lower Rio Grande.

Project Description:

The objective of the project is; (1) review and compile bibliographic information on historical biological data sets from studies on the lower Rio Grande; (2) to design and develop a bibliographic database based on the review and compilation of bibliographic information; (3) make the prototype of bibliographic database accessible for query testing through the USGS - Texas District Homepage on the internet.

Accomplishments 1997:

Database structure, web page, main menu page, and a record form page have been completed. Some major bibliographic sources have been retrieved.

Expected Outcome(s) for 1998:

The database will be accessible through the USGS -Texas District Homepage in October 1997 (<http://txwww.cr.usgs.gov/>).

Project Contact(s):

Steve Ansley, USGS, (512) 873-3078

Participant(s):

TNRCC, USGS

Rio Grande Alliance (RGA)

Total Extramural \$\$ 1998: \$0.00

Start Date: FY94

Completion Date: FY98

Project Purpose:

The Rio Grande Alliance is a binational forum which supports collaboration among the diverse participants in the Rio Grande Watershed dedicated to the protection, improvement and conservation of natural resources and public health.

Project Description:

The RGA is designed to pull together stakeholders and facilitate community-based partnerships in the Rio Grande watershed, which comprises three US states, (TX, CO, NM) and five Mexican states. These entities cover the entire Rio Grande watershed, not just the border area. The development of a large coordinating council incorporates many voices at the local, State, and international levels, and provides opportunities to share diverse viewpoints in a structured, working environment. Through this process, the RGA helps to establish and address common priorities regarding the environment and water quality in the Rio Grande watershed.

Accomplishments 1997:

Establishment of RGA website, initiation of project inventory database, and hosting coordinating council meetings.

Expected Outcome(s) for 1998:

Continued support of website, maintenance of project inventory database, and coordinating council meetings.

Project Contact(s):

Karen Young, (214) 665-6679

Terri Buchanan, TNRCC (512) 239-4620

Participant(s):

TNRCC, US and Mexican federal governments, and a coordinating council of nearly 40 entities in the US and Mexico.

Water Workgroup 1998 Implementation Plans

Rio Grande/Rio Bravo Toxics Substance Study

Total Extramural \$\$ 1998:

Start Date: FY93

Completion Date: FY01

Project Purpose:

To screen the Rio Grande for the prevalence, magnitude, and impact of toxic chemicals.

Project Description:

Perform various toxicity evaluations while setting priorities for wastewater treatment upgrades, nonpoint source best management practices and other potential mitigation practices.

Accomplishments 1997:

The Phase 2 report draft was completed. The Final Phase (Phase 3) study design was completed with the Mexican government giving approval in principle. The habitat field work for Phase 3 study was completed in August 1997.

Expected Outcome(s) for 1998:

The Phase 2 report will be completed and released to the general public by April 1998. The Phase 3 field work will be completed in November 1998.

Project Contact(s):

Forrest John, (214) 665-6679

Patrick Roques, TNRCC, (512) 239-4620

Participant(s):

TNRCC, EPA, TDH, US/Mexico IBWC, CNA

Santa Cruz Groundwater Hydrogeologic Modeling

Total Extramural \$\$ 1998: \$0.00

Start Date: 1997

Completion Date: 1999

Project Purpose:

The purpose is to predict groundwater movement and levels in the Santa Cruz aquifer that may be associated with local water and wastewater infrastructure projects.

Project Description:

The Arizona Department of Water Resources will develop a hydrogeologic model of groundwater in the Santa Cruz basin.

Accomplishments 1997:

ADWR initiated work on the development of a model for the U.S. side of the binational aquifer. Also, ADWR exchanged information with CNA to enable consideration of linking the ADWR effort with similar studies in Mexico.

Expected Outcome(s) for 1998:

ADWR will produce the first version of a model of the U.S. portion of the aquifer. Discussions with Mexico are possible to consider opportunities for binational collaboration.

Project Contact(s):

Terry Sprouse, ADWR

Participant(s):

ADWR, EPA, CNA, IBWC, ADEQ, Sonora, Nogales (Son), Nogales (AZ)

Water Workgroup 1998 Implementation Plans

Simulation of Effects of Pumpage on Ground-Water Levels, the Movement of Saline Water, and Land-Subsidence in the Hueco Basin, El Paso, Texas, and Adjacent Areas

Total Extramural \$\$ 1998: \$31,000.00

Start Date: FY96

Completion Date: FY98

Project Purpose:

Model simulation of the Hueco Basin designed to model the effect of aquifer pumpage on fresh/saline water movements, land-subsidence, and ground water levels in the El Paso and Juarez area.

Project Description:

This investigation will integrate the latest geohydrologic data and concepts in a simulation of the flow of fresh and saline water and aquifer compaction in the Hueco Basin. The numerical simulation will be regional in spatial extent, encompassing the Hueco Basin. Efforts are underway to get the cooperation of Ciudad Juarez and the Mexican Federal Government to make this a simulation of the entire basin. Although the model will be regional in scope, it will be sufficiently detailed to study localized problems. Finer discretization will be employed in the locality of El Paso and Juarez, where hydraulic stresses are concentrated. Temporally, the simulation will extend from steady-state conditions (approximately 1,880) through the present time for which historical data are available. This investigation is currently continuing with the development of GIS coverages and construction of the framework.

Accomplishments 1997:

Evaluated localized problems in the El Paso and Juarez area using model simulations.

Expected Outcome(s) for 1998:

Continue the development of the GIS coverages and framework construction.

Project Contact(s):

Chuck Heywood, USGS, (505) 262-5351

Participant(s):

El Paso Water Utilities and Public Service Board, U.S. Army, Fort Bliss

South Bay Ocean Outfall Baseline Monitoring

Total Extramural \$\$ 1998: \$0.00

Start Date: 1995

Completion Date: 1998

Project Purpose:

The purpose is to establish a baseline in order to measure possible effects due to discharge from the South Bay Ocean Outfall.

Project Description:

IBWC and the City of San Diego are monitoring the Pacific Ocean in the vicinity of the South Bay Ocean Outfall. Extensive monitoring is being conducted for 3 years (at a cost of about \$2 million) during construction of the ocean outfall. The results will establish a baseline from which to measure effects of the discharge through the ocean outfall. Discharge will begin when construction is completed later this year.

Accomplishments 1997:

Monitoring of surf zone and offshore water quality, benthic invertebrates, and fish was continued.

Expected Outcome(s) for 1998:

Baseline monitoring will continue until construction is completed. Once discharge begins, monitoring will be conducted in accordance with the discharge permit.

Project Contact(s):

Alan Langworthy, City of San Diego, 619-692-4939

Charles Fischer, IBWC, 619-662-7600

Luis Antonio Rascon, CILA, (16) 13 9942

Participant(s):

City of San Diego, IBWC, EPA, CNA, RWQCB 9

Water Workgroup 1998 Implementation Plans

Tijuana Pretreatment Technical Assistance

Total Extramural \$\$ 1998: \$0.00

Start Date: 1996

Completion Date: Ongoing

Project Purpose:

The purpose is to provide technical assistance on pretreatment in Tijuana.

Project Description:

The City of San Diego, in response to a request from the state of Baja California to the state of California, is providing technical assistance to the Baja California Department of Ecology for the development of a pretreatment program in Tijuana. This project complements activities underway by IBWC with respect to the International Wastewater Treatment Plant.

Accomplishments 1997:

Binational technical workshops were held and a training program was initiated whereby staff from the Department of Ecology accompany staff from San Diego on inspections of industries located in San Diego.

Expected Outcome(s) for 1998:

Further technical workshops and training activities are anticipated.

Project Contact(s):

Ruben Sepulveda, Baja California Department of Ecology, 66-24-20-00 ext 2274

Alan Langworthy, City of San Diego, 619-692-4939

Art Coe, RWQCB 9, 619-467-2952

Participant(s):

Department of Ecology, City of San Diego, RWQCB 9, IBWC, CNA, SWRCB

Tijuana Wastewater Infrastructure

Total Extramural \$\$ 1998: \$0.00

Start Date: 1990

Completion Date: 2001

Project Purpose:

The purpose is to eliminate dry-weather sewage discharges to the Tijuana River by improving wastewater infrastructure in Tijuana.

Project Description:

The project consists the planning, design, and construction of the South Bay International Wastewater Treatment Plant and Outfall. EPA has contributed \$239.4 million to this project with additional funding coming from Mexico, the State of California, and the City of San Diego. An additional project to construct the Tijuana Parallel Pumping and Conveyance System and construct improvements to the San Antonio de los Buenos treatment plant is also underway.

Accomplishments 1997:

EPA and IBWC conducted supplemental environmental analyses for the international treatment plant. The parallel system was certified by BECC.

Expected Outcome(s) for 1998:

EPA and IBWC will complete the environmental analyses and select a long term treatment option. Construction will begin on the parallel system.

Project Contact(s):

Elizabeth Borowiec, EPA, 415-744-1165, borowiec.elizabeth@epamail.epa.gov

Bill Ruth, IBWC, 915-832-4143

Antonio Rascon, CILA, (16) 13 9942

Participant(s):

EPA, IBWC, CNA, CESPT, SWRCB, RWQCB 9, City of San Diego

Tijuana Wastewater Technical Assistance

Total Extramural \$\$ 1998: \$0.00

Start Date: 1997

Completion Date: Ongoing

Project Purpose:

The purpose is to provide technical assistance on wastewater issues in Tijuana.

Project Description:

The California State Water Resources Control Board (SWRCB) and the City of San Diego are providing technical assistance on wastewater issues as requested by the Baja California State Public Works Commission for Tijuana (CESPT).

Accomplishments 1997:

Binational technical workshops were held on the subjects of: design of the parallel pumping system; wastewater sludge handling and disposal; and treatment improvements at San Antonio de los Buenos.

Expected Outcome(s) for 1998:

A workshop is being considered regarding the concept of an ocean outfall for the San Antonio de los Buenos treatment plant.

Project Contact(s):

Leonardo Caloca, CESPT, 66-22-40-66
Emilio de la Fuente, City of San Diego, 619-533-4200
Bart Christensen, SWRCB, 916-227-4426

Participant(s):

CESPT, City of San Diego, SWRCB, CNA, IBWC, Department of Ecology

GLOSSARY OF ABBREVIATIONS

Glossary of Abbreviations

ACAAN	Acuerdo de Cooperacion Ambiental del Norte (see NAAEC)
ADEQ	Arizona Department of Environmental Quality
ADGF	Arizona Game and Fish Department
ADHS	Arizona Department of Health Services
ADWR	Arizona Department of Water Resources
AID	U.S. Agency for International Development
AMIGO	Arizona - Mexico International Green Organization
APCD	Air Pollution Control District
APHIS	Agriculture Pest Health Inspection Service
ASU	Arizona State University
ATSDR	Agency for Toxic Substance and Disease Registry
BANDAN	Banco para el Desarrollo de America del Norte (see NADBank)
BBS	Bulletin Board System
BECC	Border Environment Cooperation Commission (see COCEF)
BEIF	Border Environment Infrastructure Fund
BHO	Border Health Office
BLM	Bureau of Land Management
BMP	Best Management Practices
BOR	Bureau of Reclamation
BRD	Biological Resources Division of USGS
Cal-DTSC	California Department of Toxic Substances Control
CAMEO	Computer aided Management of Emergency Operations
CAMX	Meteorological Model
CARB	California Air Resources Board
CATC	Clean Air Technology Center (USEPA technical center under OAQPS)
CCA	Comision de Cooperacion Ambiental de America del Norte (see CEC)
CCPC	Comite Consultivo Publico Conjunto de la CCA (see JPAC)
CDC	Centers for Disease Control
CDFG	California Department of Fish and Game
CDHS	California Department of Health Services
CEAS	Comision Estatal de Aguas y Saneamiento de Coahuila (Coahuila State Commission for Water and Sanitation)
CEC	Commission for Environmental Cooperation (see CCA)
CEQ	Council on Environmental Quality
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Act Information System
CES	Centro Ecologico de Sonora (Sonora Ecological Center)
CESPM	Comite Estatal de Servicios Publicos de Mexicali (State Committee for Public Services of Mexicali)

Glossary of Abbreviations

CESPT	Comite Estatal de Servicios Publicos de Tijuana (State Committee for Public Services of Tijuana)
CFC	Chlorofluorocarbons
CFE	Federal Electrical Commission (Comision Federal de Electricidad)
CFP	Cooperative Fisheries Program
CICA	U.S.-Mexico Information Center on Air Pollution
CICOPLAFEST	Comision InterSecretarial para el Control de Plaguicidas, Fertilizantes y Substancias Toxicas (Interagency Commission for Control of Pesticides, Fertilizers and Toxic Substances)
CICTUS	Centro de Investigaciones Cientificas y Tecnologicas (Center for Scientific and Technological Research)
CIDESON	Centro de Investigacion y Desarrollo de Sonora (Sonora Center for Research and Development)
CIESIN	Consortium for International Earth Sciences Information Network
CILA	Comision Internacional de Limites y Aguas (see IBWC)
CITES	Convention on International Trade for Endangered Species
CLAM	Comite Local para Ayuda Mutua (Local Committee for Mutual Assistance)
CNA	Comision Nacional de Agua (National Water Commission)
CO	Carbon monoxide
COAPES	Comision de Agua Potable y Alcantarillado del Estado de Sonora (Sonora State Commission for Drinking Water and Sewers)
COCEF	Comision de Cooperacion Ecologico Fronterizo (see BECC)
COLEF	El Colegio de la Frontera Norte (College of the Northern Border)
CONABIO	Comision Nacional para el Conocimiento y Uso de la Biodiversidad (National Commission for Knowledge and Use of Biodiversity)
CONACYT	Consejo Nacional de Ciencia y Tecnologia (National Advisory Council for Science and Technology)
COSAE	Comision de Servicios de Agua del Estado de Baja California (Water Utilities Commission for the State of Baja California)
CPE	Comprehensive Performance Evaluation
CWS	Canadian Wildlife Service
DCP	Data Collection Platforms
DEM	Digital elevation model
DFG	Department of Fish and Game (California)
DGPS	Differential Geographic Positioning System
DIAAPROY	Diseno, Asesoría, y Administración de Proyectos, S.A. de C.V. (Project Design, Assistance, and Management, Inc.)
DLG	Digital line graph
DOC	U.S. Department of Commerce
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy

Glossary of Abbreviations

DOI	U.S. Department of Interior
DOJ	U.S. Department of Justice
DOQ	Digital ortho-quadrangles
DOS	U.S. Department of State
DOT	U.S. Department of Transportation
DRGs	Digital raster graphics
DUMAC	Ducks Unlimited de Mexico, A.C.
EECC	Environmental Education Blueprint for the California's
EDF	Environmental Defense Fund
EJ	Environmental Justice
EPA	U.S. Environmental Protection Agency
EPA/OW	U.S. Environmental Protection Agency - Office of Water
EPA R6	U.S. Environmental Protection Agency - Region 6
EPA R9	U.S. Environmental Protection Agency - Region 9
EPCCHED	El Paso City and County Health and Environment Department
EPOMEX	Programa de Ecologia, Pesca, y Oceanografia del Golfo de Mexico (Gulf of Mexico)
	Program for Ecology, Fisheries, and Oceanography)
FCC	U.S. Field Coordinating Committee (DOI)
FDA	Food and Drug Administration
FGDC	Federal Geographic Data Committee
FONSI	Finding of No Significant Impact
FWS	U.S. Fish and Wildlife Service
FY	Fiscal Year
GCD	Grupo Coordinador Estatal del Proyecto de Descentralizacion (State Coordinating Group for the Decentralization Project)
GCVTC	Grand Canyon Visibility Transport Commission
GGA	Grupo de Gestion Ambiental Estatal (State Environmental Management Group)
GIS	Geographical Information Systems
GNEB	Good Neighbor Environmental Board
GPS	Global Positioning System
HAZTRAKS	Hazardous Waste Tracking System
HHS	U.S. Department of Health and Human Services
HMMD	County of San Diego - Hazardous Materials Management Division
HRSA	Health Resources and Services Administration
HUC	Hydrologic Unit Code
HUD	U.S. Department of Housing and Urban Development
H	Hazardous Waste
IB	Instituto de Biologia, UNAM (Biology Institute, UNAM)
IBEP	Integrated Border Environmental Plan, Integrated Environmental Plan for the U.S.-Mexico Border Area, First Stage (1992-94) (see PIAF)

Glossary of Abbreviations

IBWC	International Boundary and Water Commission (see CILA)
ICC	Interagency Coordinating Committee
ICMA	International City/County Management Association
IID	Imperial Irrigation District
IMADES	Instituto del Medio Ambiente y el Desarrollo Sustentable del Estado de Sonora (State of Sonora Institute for the Environment and Sustainable Development) - formed through the joining of CIDESON and CES
IMSS	Instituto Mexicano del Seguro Social (Mexican Institute for Social Security)
INAH	Instituto Nacional de Antropología e Historia (National Institute for Anthropology and History Inc. Incorporated (see S.A. de C.V.))
INE	Instituto Nacional de Ecología (National Institute for Ecology)
INEGI	Instituto Nacional de Estadística, Geografía, e Informática (National Institute for Statistics, Geography, and Information)
INIFAP	Instituto Nacional de Investigaciones Forestales, Agrícola y Pecuaria (National Institute for Investigations of Forests, Agriculture and Livestock)
INP	Instituto Nacional de Pesca (National Institute of Fisheries)
ISO 14000	International Standards Organization 14000 (14000 is a series of standards on environmental management)
ISSSTE	Instituto de Seguridad Social y Servicios para los Trabajadores del Estado (Institute for Social Security & Services for State Workers)
ISCLT3	Industrial Source Complex Long Term Modeling Version 3
ITESM	Instituto Tecnológico de Estudios Superiores de Monterrey (Technology Institute of Superior Studies of Monterrey)
ITJ	Technical Institute of Cd. Juárez
ITT	Tijuana Technical Institute
IWMB	Integrated Waste Management Board
IWRC	Iowa Waste Reduction Center
IWTP	International Wastewater Treatment Plant
JAC	Joint Advisory Committee
JCP	Joint Contingency Plan
JMAS	Junta Municipal de Alcantarillado y Saneamiento de Ciudad Juárez (Sewer and Sanitation Municipal Authority for Ciudad Juárez)
JPAC	Joint Public Advisory Committee for the CEC (see CCPC)
JRT	Joint Response Team
LEPC	Local Emergency Planning Committee
LG	Local Government
LIDAR	Light, intensity, distancing, and ranging
LOI	Letter of intent
LPs	Liters per second
MEXUS	MOU on fisheries investigation between Mexico and the U.S. for the Gulf of Mexico and the Pacific Ocean

Glossary of Abbreviations

MMS	U.S. Minerals Mines Service
MSWM	Municipal Solid Waste Management
MOU	Memorandum of Understanding
NAAEC	North American Agreement on Environmental Cooperation (see ACAAN)
NAAQS	National Ambient Air Quality Standards
NADBank	North American Development Bank (see BANDAN)
NAFTA	North American Free Trade Agreement (see TLC)
NAS	National Audubon Society
NASQAN	National Stream Quality Accounting Network
NAWCC	North American Waterfowl Conservation Commission
NAWQAP	National Water Quality Assessment Program
NBEP	Northern Border Environmental Program (see PAFN)
NBII	National Biological Information Infrastructure
NGO	Non-governmental organization
NIEHS	National Institute of Environmental Health Sciences
NIH	National Institute of Health
NIWTP	Nogales International Wastewater Treatment Plant
NJDEP	New Jersey Department of Environmental Protection
NMBHO	New Mexico Border Health Office
NMDFG	New Mexico Department of Fish and Game
NMDOH	New Mexico Department of Health
NMED	New Mexico Environment Department
NMEO	New Mexico Engineer's Office
NMFS	National Marine Fisheries Service
NM-GIC	New Mexico Geographic Information Council
NMSU	New Mexico State University
NMWRRI	New Mexico Water Resource Research Insitute
NOAA	U.S. National Oceanic and Atmospheric Administration
NOS	U.S. National Ocean Service
NOV	Notices of Violation
NOx	Oxides of Nitrogen
NPS	National Park Service
NRCS	U.S. Department of Agriculture - Natural Resources Conservation Service
NSDI	National Spatial Data Infrastructure
NTDs	Neural tube defects
NWR	National Wildlife Refuge
O3	Ozone
OAQPS	Office of Air Quality of Planning and Standards
OCRM	Ocean and Coastal Resource Management
ONG	Organizaciones no Gubernamentales (see NGO)
OPS	Organizacion Panamericana para la Salud (see PAHO)

Glossary of Abbreviations

OWM	Office of Wastewater Management
P2	Pollution Prevention/Prevencion de la Contaminacion
PAFN	Programa Ambiental de la Frontera Norte (see NBEP)
PAH	Polycyclic aromatic hydrocarbon
PAHO	Pan American Health Organization (see OPS)
Pb	Lead
PCBs	Polychlorinated Biphenyl
PCS	Permit and Compliance System
PDAP	Project Development Assistance Program
PE	Professional Engineer
PEMEX	Petroleos Mexicanos (Mexican Petroleum Company)
PHS	Public Health Service
PM-2.5	Particulate mater (size = less than 2.5 microns)
PM-10	Particulate matter (size = less than 10 microns)
PND	Plan Nacional de Desarrollo (Mexico's National Development Plan)
POTWs	Public Owned Treatment Water Systems
PPM	Parts Per Million
PROFAUNA	Asociacion para la Proteccion de la Fauna, A.C. (Association for the Protection of Wildlife)
PROFEPA	Procuraduria Federal de Proteccion al Ambiente (Federal Attorney General for Environmental Protection)
PRTR	Pollution Release and Transfer Registry
PSU	Pennsylvania State University
QA/QC	Quality Assurance/Quality Control
RGA	Rio Grande Alliance
RMRS	Rocky Mountain Research Station
RTP	Research Triangle Park
RWQCB	Regional Water Quality Control Board
S.A. de C.V.	Sociedad Anonima de Capital Variable(see Inc.)
SAGAR	Secretaria de Agricultura, Ganaderia, y Desarrollo Rural (Mexican Secretariat for Agriculture, Cattle, and Rural Development)
SAHOPE	Secretaria de Asentamientos Humanos y Obras Publicas del Estado (Baja California State Secretariat for Human Housing and Public Works)
SARH	Secretaria de Agricultura y Recursos Hidraulicos (Mexican Secretariat for Agriculture and Hydraulic Resources)
SCREEN3	EPA screening Model version 3 (Air modeling)
SCT	Secretaria de Comunicaciones y Transportes (Mexican Secretariat of Communication and Transportation)
SCERP	Southwest Center for Environmental Research and Policy
SDBO	Environmental Protection Agency San Diego Border Office
SDCDEH	San Diego Department of Environmental Health

Glossary of Abbreviations

SDSU	San Diego State University
SE	Secretariat of Energy
SEAGO	Southeastern Arizona Governments Organization
SECTUR	Mexico's Secretaría de Turismo
SEDESOL	Secretaria de Desarrollo Social (Mexico's Secretary for Social Development)
SEDUE	Secretaria de Desarrollo Urbano y Ecologia (Mexican Secretary for Urban Development and Ecology)
SEEN	Southern Enviornmental Enforcement Network
SEMARNAP	Secretaria de Medio Ambiente Recursos Naturales y Pesca (Mexico's Secretary for the Environment, Natural Resources, and Fisheries)
SEP	Supplemental Environmental Project
SFFS	Subsecretaria Forestal y de la Fauna Silvestre (Subsecretariat for Forestry and Wildlife)
SIP	State Implementation Plan
SIRDO	Sistema Integral para el Reciclamiento de Desechos Organicos (Integral System for the Recycling of Organic Waste)
SIRREP	Sistema de Rastreo de Residuos Peligrosos (Hazardous Waste Tracking System)
SIUE	Secretaria de Infraestructura Urbana y Ecologia, Sonora (Secretary for Urban Infrastructure and Ecology, Sonora)
SO2	Sulfur dioxide
SPMDs	Semi-Permeable Membrane Devices
SRE	Secretaria de Relaciones Exteriores - (Mexico's Secretariat for External Affairs)
SRN	Subsecretaria de Recursos Naturales, (Undersecretariat for Natural Resources, under SEMARNAP)
SSA	Secretaria de Salud (Mexico's Secretary of Health)
SWRCB	State Water Resources Control Board (California)
TAMU	Texas A&M University
TB	Tuberculosis
TDH	Texas Department of Health
TEEX	Texas Engineering Extension Services
TDPS	Texas Department of Public Safety Texas (STEP) Texas Small Towns Environment Program
TGLO	Texas General Land Office
TIGER	Topologically Integrated Geographic Encoding and Referencing
TLC	Tratado de Libre Comercio (see NAFTA)
TNRCC	Texas Natural Resource Conservation Commission
TNRIS	Texas Natural Resource Information System
TPWD	Texas Parks and Wildlife Department
TRI	Toxics Release Inventory
TRIP	Transboundary Resource Inventory Program
TRWA	Texas Rural Water Association

Glossary of Abbreviations

TSP	Total suspended particulates
TWDB	Texas Water Development Board
TXAWWA	Texas Section American Water Works Association
TX-GISPC	Texas Geographic Information Systems Planning Council
UAAAN	Universidad Autonoma Agraria Antonio Narro (Antonio Narro Autonomous Agrarian University)
UABC	Universidad Autonoma de Baja California (Autonomous University of Baja California)
UACH	Universidad Autonoma de Chihuahua (Autonomous University of Chihuahua)
UAG	Universidad Autonoma de Guadalajara (Autonomous University of Guadalajara)
UAM	Universidad Autonoma Metropolitana (Autonomous Metropolitan University)
UAM-Azc	Universidad Autónoma Metropolitana de Azcapotzalco (Autonomous Metropolitan University of Azcapotzalco)
UAM-V	Urban Airshed Model - V
UANL	Universidad Autonoma de Nuevo Leon (Autonomous University of Nuevo Leon)
UAS	Universidad Autonoma de Sonora
UAT	Universidad Autonoma de Tamaulipas
UCANP	Unidad Coordinadora de Areas Naturales Protegidas, INE (Division of Coordination of Natural Protected Areas)
UCAI	Unidad de Coordinacion de Asuntos Internacionales, (Office of Coordination of International Activities)
UCD	University of California at Davis
UNAM	Universidad Nacional Autonoma de Mexico (Autonomous National University of Mexico)
UNISON	Universidad de Sonora (University of Sonora)
UNM	University of New Mexico
UNT	University of North Texas
U of A	University of Arizona
USACE	U.S. Army Corps of Engineers
USCS	United States Custom Service
USD	United States Dollars
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
USMBHA	U.S.- Mexico Border Health Association
UT	University of Texas
UTA	University of Texas at Austin
UT-BEG	University of Texas at Austin, Bureau of Economic Geology
UTEP	University of Texas at El Paso
U of U	University of Utah
VOCs	Volatile organic compounds

Glossary of Abbreviations

WEAT	Water Environment Association of Texas
WEF	Water Environment Federation
WGA	Western Governors Association

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