PROTECTING THE ENVIRONMENT AND PUBLIC HEALTH





Overcoming Binational Environmental Challenges

he U.S.-Mexico border I region is home to over 15 million people who share natural resources. watersheds, and air basins that transcend political boundaries. Binational pollution impacts both sides of the border and necessitates a coordinated



Opening ceremony of the Border 2020 Program in Tijuana, Baja California, on August 8th, 2012

response. To improve and protect the environment and public health, the La Paz Agreement was signed by the Governments of Mexico and the United States in 1983, thus providing the foundation for cooperative efforts to address the complex and intertwined environmental issues along the U.S.-Mexico border.

A Diverse U.S.-Mexico Border Region



- 15 million+ people borderwide
- 26 federally recognized U.S. tribes
- 6 national parks
- 4 high priority river basins
- 40+ U.S. counties and **80** MX municipalities
- 4 transboundary rivers into the U.S.
- 2,000 mile shared border

TIMELINE 1983 1992

Building from the La Paz Agreement, the United States Environmental Protection Recognizing the Agency (U.S. EPA) and Mexico's need to cooperate Secretariat of the Environment and binationally on Natural Resources (SEMARNAT) have environmental implemented four successive binational and public health programs to meet emerging environmental challenges in the challenges in this dynamic region. Along border region, the the entire border, key stakeholders such Governments of the as the 10 states, 26 federally recognized United States and tribes and local partners have provided

leadership and additional funding

to implement projects that advance

environmental protection and public

and economic activity have increased.

health improvements while the population



President Reagan of the U.S. and President de la Madrid of Mexico sign the La Paz Agreement

Mexico signed the Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area (the La Paz Agreement), in the city of La Paz, Baja California Sur, Mexico, in 1983.

Integrated Border Environmental Plan (IBEP)

The first binational border program, IBEP, focused on enhanced environmental regulation and resulted in significant investments in infrastructure along the border. Although the binational environment improved, many projects were implemented at a federal scale, and the Program recognized the need to address environmental and health concerns on the border with additional local stakeholder involvement.

Border XX

Border XXI established a five-year bilateral effort which included

1996



2. Boundary set forth by La Paz Agreement (62 miles from border).

Local emergency response sister-cities were developed

additional federal partners to achieve its goals, engaged the 10 border states and U.S. tribes, and included over 40 public meetings to solicit input and identify local priorities. Border XXI established nine borderwide workgroups to address transboundary environmental issues. While the workgoups implemented many pilot projects benefitting communities, the Program objectives remained broad in nature.

Border 2012

2003

The Border 2012 Program set an ambitious ten-year plan that included specific and measurable environmental



Partnership with U.S. tribes and the Necua Indigenous Community in Mexico on waste management

goals and objectives developed through public input. The Program took a bottom-up approach that continued engagement of state, tribal and local communities and operated through four new regional workgroups and numerous local taskforces to implement stakeholder-led projects.

Border 2020

2012

Border 2020 continues a bottomup approach and tackles emerging environmental issues. Program goals were



infrastructure in the Tijuana-San Diego region

established binationally and seek to improve air and water quality, reduce waste, strengthen emergency preparation and response, promote environmental stewardship and address environmental health. These goals directly align with U.S. EPA's core programs, local priorities, and the original mandate from the La Paz Agreement to address the complex and on-going regional environmental challenges.

The Basis for Binational Cooperation — La Paz Agreement

Protecting Communities Borderwide

Improving the Air We Share

any U.S.-Mexico border cities share binational air basins, where pollutants such as particulate matter (PM₁₀, PM₂₅) and ozone and its precursors (NO_x and VOC) travel across borders. Exposure to these pollutants can affect our hearts and lungs, triggering a variety of health problems, particularly to vulnerable populations with asthma. For example, in California, ozone is problematic in San Diego County, while both ozone and PM are concerns in the Imperial Valley. In El Paso, Texas, key challenges include PM, carbon monoxide

and ozone.



Air quality monitoring inspection in San Diego-Tijuana border region

In response, local binational task forces formed to coordinate and implement solutions such as improving and/or expanding monitoring networks, increasing data availability, and expanding public outreach. Meanwhile states on both sides of the border have identified mitigation strategies in air quality improvement plans (State Implementation Plans in the U.S. and ProAire in Mexico).

The border region has reduced emissions at ports of entry by reducing wait times for idling vehicles. In addition, paving dusty roads and improving urban transport borderwide have resulted in the elimination of 170,000 tons per year of PM₁₀. Air monitoring from 2006-2014 identified a decline in ozone exceedances in the San Diego and Imperial Valley air basins and PM exceedances in the El Paso air basin.



Groundbreaking ceremony of water system improvements in Anthony, New Mexico

Enhancing Water Quality

he U.S.-Mexico border region shares numerous transboundary watersheds, with many rivers flowing from Mexico into the U.S., or even forming the border itself in some cases. Four have been identified as highpriority. Outdated infrastructure and extreme weather events can result in contaminated stormwater and sewage overflows entering the transboundary waterways and exposing communities living and/or working in or nearby the watersheds to contaminated water. The Border Programs have worked to address these environmental health challenges for over 20 years.

Since 1997, the Border Water Infrastructure Program (BWIP) and binational program partners have supported the construction and/or expansion of infrastructure projects that are eliminating over 350 million gallons a day (mgd) of untreated or inadequately treated sewage discharges.

The Border Program also carries out trash cleanup and waste reduction efforts to address illegal dumping that contaminates transboundary waterways, the Gulf of Mexico and the Pacific Ocean. To protect existing infrastructure, the Program partners with local businesses in Texas, Arizona and Tamaulipas to properly dispose of Fats, Oils and Grease (FOGs). Green infrastructure projects and trainings in Ambos Nogales have reduced impacts from stormwater runoff into the Nogales Wash and the Santa Cruz River in Arizona. In addition, more than 1,000 community members and municipal staff in southern New Mexico and west Texas received training on the health threats posed by improperly maintained septic tanks.



Household hazardous waste collection event in Nuevo Laredo, Tamaulipas, Mexico



Ojinaga, Chihuahua responders received HAZMAT training and equipment

Promoting Clean Land

hen waste materials are improperly disposed of they can negatively impact our lands, transboundary watersheds and oceans and create habitat for disease-bearing vectors such as mosquitoes. As the population has grown in border communities, increased amounts of plastics, electronics, tires and other materials have overburdened the waste management infrastructure and services.

The Border Programs have improved collaboration among binational stakeholders to reduce waste through: 1) mitigating the impacts of plastic. tires, and other waste through cleanups and educational outreach and community actions; 2) reducing waste and increasing recovery and reuse of plastic, e-waste, tires, and other materials; and 3) building technical capacity among diverse stakeholders to adopt sustainable materials management practices.

Since 2005, communities in the U.S.-Mexico border region have carried out projects to properly dispose: over 8 million scrap tires, nearly 60,000 tons of household hazardous waste, and 264 tons of electronic waste.

Strengthening Emergency Response Capability

inational emergency preparedness and response coordination is critical in the border region, because toxic smoke, contaminated water and other impacts from disasters and incidents pay no heed to local, state or international boundaries. Emergency preparedness efforts — training, exercises, equipment — have been tested in real-life emergencies and led to a more efficient coordinated response along the U.S.-Mexico border. Joint Response Teams (JRT) support these efforts and ensure timely binational reporting of incidents.

Since 2013, through the Border Program, more than 10,500 responders have received capacity trainings from over 140 training courses and over 25 binational exercises and 200 drill notifications between the U.S. and Mexico. These actions and resources have made the border region safer for residents, first responders and the environment.

Fostering Environmental Stewardship

mproperly managing hazardous materials can pose transboundary environmental health issues. Challenges such as illegal or improper crossing of hazardous wastes and material at the U.S.-Mexico ports of entry and the lack of community information on pollutant sources has called for improved enforcement efforts, compliance assistance and environmental stewardship.

Through Border Program efforts, environmental inspectors are now present at ports of entry and information is exchanged between Program partners on transboundary compliance at binational workshops. Border communities are also benefitting from improved transparency of U.S. and Mexican pollutant discharge data (i.e. the U.S. Toxic Release Inventory [TRI] and the Mexican Registry of Emissions and Transfer of Contaminants [RETC]) reports. In addition, a binational public-private partnership led to enhanced environmental stewardship, through Environmental Management System (EMS) trainings for over 30 small and medium-sized companies in border communities.



Conducting truck stop inspection in Calexico, CA, Photo/Jessica Rodriguez

TAMAULIPAS

IMPACT: Improving Air Quality in the Paso del Norte Region IMPACT: 900+ Participate in Binational Symposia to Improve Environmental Health **IMPACT:** Binational Collection of Oil and Grease for Biodiesel **CALIFORNIA** Through the Ambos Nogales Biodiesel Capacity Building Program, oil and From 2015-17 Border 2020 and EPA's Children's Health Offices convened four The Joint Advisory Committee was grease collected from local restaurants is transformed into biodiesel fuel formed in 1996 and works to improve children's environmental health and two vector-borne disease symposia. Topics used for emergency response vehicles. This Program has the dual benefit included: indoor air quality, asthma, lead, mosquito-borne illness, children's health air quality through binational ARIZONA of 1) preventing the oil and grease from negatively impacting the sewer collaboration. and prenatal exposures among others. system and 2) creating an alternative fuel. **Key Accomplishments: Key Accomplishments: Key Accomplishments:** · Introducing cleaner fuel (oxygenated • 566+ attended the children's health symposia in El Paso and Brownsville, Texas, • 1,200-1,500 gallons of biodiesel produced annually since original gasoline) in Mexico. and San Diego, California. • Strengthening vehicle inspection in Ciudad Dedicating commuter lanes at border • 360+ attended two vector-borne disease prevention symposia in Mexicali, Baja Reduced grease blockages in sewer systems. Juarez with an average of 200,000 California, and Nogales, Sonora. crossings to reduce emissions and inspections completed annually. Increased local usage of biodiesel for fire department vehicles. converted from grease and oils · Participants at symposia included healthcare experts from the U.S. and Mexico, public health practitioners, community health workers or promotores, educators, **Pacific** medical students, faculty, government agencies and the public. Ocean **NEW MEXICO** BAJA **CALIFORNIA** California **TEXAS** IMPACT: Improving the Air We Share Federal, state, and local agencies collaborate **SONORA** to measure air quality at border crossings and Students sign pledge poster to manage vector-borne diseases from mosquitoes using integrated pest management inform neighboring communities. Outreach campaigns target sources of pollution to mitigate health impacts. **IMPACT: Enhancing our Water Key Accomplishments: IMPACT:** Strengthening Emergency Preparedness Through a Border 2012-funded monitoring Monitor installed at San Ysidro, busiest land program, high levels of nutrients discharged port of entry in Western Hemisphere, in The border region is highly industrial and hazardous through the Las Arenitas Wastewater Treatment January 2015. materials pose a threat to communities and transboundary Plant in southern Mexicali were determined to air and watersheds. Arizona State University led the Bilingual television and radio campaign be causing algal blooms in the Rio Hardy. Funds development of a binational Hazardous Materials Emergency targeting fireworks and open burning in from the Program were used to design a 97 Response Training (HAZMAT) Pilot Program with industry, Imperial-Mexicali region launched in 2010. hectare artificial wetland system, which was **CHIHUAHUA** academia, and federal, state, and local agencies. Mexicali announced ban on sale of fireworks in later constructed with funds from Mexico. December 2016 **Key Accomplishments: Key Accomplishments:** · Developed five multi-day training courses. • 15 million gallons per day of untreated Trained and certified 12 new instructors. wastewater that once polluted the New River • Created a binational model for on-going trainings to Constructed wetlands provided additional industry and first responders. treatment and expanded riparian habitat. IMPACT: Promoting Sustainability in Alamo, Texas Through a new partnership, the City enhanced environmental stewardship. **Key Accomplishments:** Roof-top equipment monitors PM_{2.5} levels as traffic backs up at San Ysidro Port of Entry • Decreased illegal dumping by over 238 tons/year. • Presented to over 1,270 students at five community Gulf of COAHUILA presentations on recycling. School student contest mascot design winner Mexico presented with award at city council Distributed 5,000 bilingual recycling brochures and Capacity-building for Ambos Nogales firemen. Photo/Bill Hatcher **LEGEND** installed a revolving recycling trailer and bins at schools. · Led community clean-ups and collection events. U.S.-Mexico border The Border 2020 work The Border 2020 Border Region: Boundary group has allowed a working Program is essential set forth by La Paz Agreement **IMPACT:** Strengthening Emergency Preparedness in Colonias relationship to become an excellent to continue providing (62 miles from border) friendship. It has been a very useful guidelines of our goals In August 2016, the Border 2020 Program, along with NGOs in the Lower Rio Grande tool for the development of border within the United States U.S. states Valley region, hosted the first Emergency Preparedness Conference for Colonias. environmental initiatives. Sonora and the State of Texas. We NUEVO and Arizona have benefited from need to continue to improve Mexico states • 110+ residents were trained on how to prepare, survive and recover from a disaster. LEÓN multiple projects on water, air, and solid waste." the environment and decrease pollution." • Other topics included: fire prevention, food safety and storage, county evacuation - Luis Carlos Romo Salazar, Commissioner, Commission on Ecology

plans, disaster housing, and family emergency planning.

- Dr. Elaine Mowinski Barron, MD, U.S. Joint Advisory

Committee Charter Member, El Paso, Texas

and Sustainable Development, State of Sonora, Mexico

Project locations



Anza-Borrego Desert State Park in California. Photo/Jeremy Bauer



allowed us to improve our relationship with EPA and more importantly they are accepting local input. That is important to develop long term relationships and really address U.S. – Mexico Border environmental issues."

- Dr. Hector F. Gonzalez, Director of the City of Laredo Health Department, Laredo, Texas



The Border 2020 Program brings
people together to better understand
and coordinate emergency preparedness and
response tactics. The result is first responders
and communities on both sides of the Border
who are better trained and equipped to
protect human health and the environment."

- Mario Novoa, Fire Chief, Douglas, Arizona



U.S.-Mexico Environmental Program

www.epa.gov/border2020