

Binational Air Quality Management: A Texas Perspective

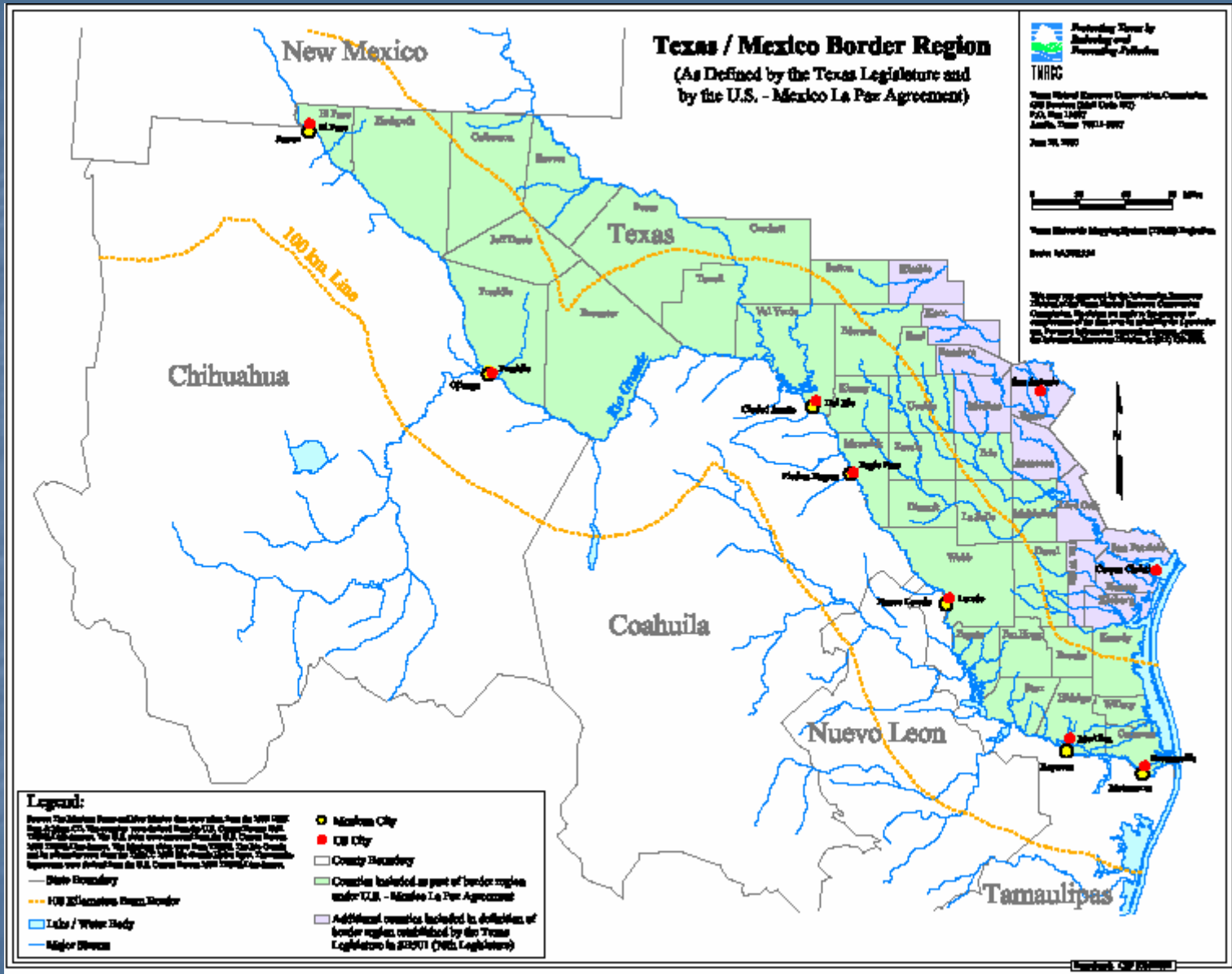
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Texas Commission on Environmental Quality

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Texas / Mexico Border Region (As Defined by the Texas Legislature and by the U.S. - Mexico La Paz Agreement)



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400 University Street, Suite 100
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Texas Statewide Mapping System (TXMAP) Project
Date: 12/20/04

This map is derived from the following sources:
Texas Statewide Mapping System (TXMAP) Project
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Texas Statewide Mapping System Project, 2004, 2005.

Legend:

Source: Texas National Border Assessment Consortium, 2007. Data derived from the 1991 TIGER files and the 2000 Census. The U.S. - Mexico La Paz Agreement is the legal basis for the border region. The U.S. - Mexico La Paz Agreement is the legal basis for the border region. The U.S. - Mexico La Paz Agreement is the legal basis for the border region.

- State Boundary
- 100 Kilometer (km) Border
- Lake / Water Body
- Major River
- Major City
- US City
- County Boundary
- Counties Included as part of border region under U.S. - Mexico La Paz Agreement
- Additional counties included in definition of border region established by the Texas Legislature in SB001 (2003 Legislature)

Geographical Context

- Texas shares borders with four Mexican states – Chihuahua, Coahuila, Nuevo León, and Tamaulipas
- The international border runs for 1,254 miles along the Rio Grande, from El Paso to the Gulf of Mexico

Ambient Air Quality Standards

The U.S. and Mexico have ambient standards for the same pollutants.

- Ozone
- Carbon Monoxide
- Particulate Matter
- Sulfur Dioxide
- Nitrogen Oxide
- Lead

The numerical standards are similar in both countries.

Only the three pollutants on the left are considered a potential problem in Texas.

Del Rio to the Gulf of Mexico

- No violations of the standards for any of the monitored pollutants have occurred
- Urban centers on the Texas side include Del Rio, Eagle Pass, Laredo, and the cities of the Lower Rio Grande Valley, including McAllen, Harlingen, and Brownsville
- Mexican side – Cd. Acuña, Piedras Negras, Nuevo Laredo, Reynosa, and Matamoros

Reasons for Attainment

- Levels of generation of emissions
- Prevailing winds

Peaks in the LRGV

- On relatively rare occasions, 8-hour average ozone concentrations can reach in to the upper 70s or lower 80s in ppb
- These peaks are caused by winds bringing ozone from the north and then stagnating for a period of time in the Valley

Cross-border Issues in South Texas

- Seasonal agricultural burning (and some burning of forests) in southern Mexico and Central America results in heavy loads of PM carried north by the winds
- Localized agricultural burning occasionally draws complaints from both sides
- Traffic back-ups at border crossings generate significant emissions

Visibility in the Big Bend Area

- The Federal Clean Air Act includes protection for national parks with respect to visibility
- In 1999, EPA issued "Regional Haze Regulations"
- Those regulations recognize the issue of long-distance transport of the pollutants that reduce visibility, and encourage multi-state cooperation
- Texas is working with several other U.S. states on developing a regional strategy

Visibility in Big Bend, continued

- In September 2004 EPA released the BRAVO haze study for Big Bend
- The main cause of haze is fine particulate matter, and chiefly sulfates formed from sulfur dioxide (SO₂)
- Haze in Big Bend results from numerous pollution sources in East Texas, other states to the north and east, and northern Mexico

El Paso and the Paso del Norte Area

- The Paso del Norte comprises parts of three states and two countries
 - El Paso, Texas
 - Cd. Juárez, Chihuahua
 - Doña Ana County, New Mexico
- Population of approximately 2.25 million
- Mountain ranges create a “bowl”

The Problem

- As monitoring for various pollutants was initiated in the 1970s and 1980s in El Paso, it became clear the area was in non-attainment for three pollutants:
 - Ozone (1-hour averages)
 - Carbon monoxide (8-hour averages)
 - PM-10 (24-hour and annual averages)

Today

- El Paso is in attainment for ozone
- The TCEQ has requested redesignation of El Paso as in attainment for CO
- The TCEQ is developing a Natural Events Action Plan to address the problem of dust storms and PM

Reasons for Improvement

- National regulations – emissions standards, oxygenated fuels, low Reid Vapor Pressure, stage 1 and stage 2 vapor controls
- State and local programs – controls on burning, rules on street sweeping, gas station inspections, vehicle I&M, Ozone Action Days

More Reasons for Improvement

- Bilingual cooperation

- Bilingual Paso del Norte Air Quality Task Force created in 1993

Goal was to create an International Air Quality Management District

- Joint Advisory Committee (JAC) created in 1996, as an appendix to the 1983 bilingual La Paz Agreement

The JAC

- Chaired by EPA and SEMARNAT
- Includes state and local agencies
- Includes representatives of corporate, academic, health, and community organizations
- Quarterly meetings

JAC Successes

- Oxygenated gasoline in Cd. Juárez
- Cross-border use of the TCEQ's Supplemental Environmental Program
- Cross-border emissions trading
- "Environmental" brick kilns
- Vehicle emissions testing in Cd. Juárez
- Expanded road paving
- Integration of the monitoring network
- "One Basin" Resolution

Remaining Cross-Border Issues

- Localized "hot spots"
 - PM
 - Hydrogen sulfide
- Different regulations in New Mexico
 - Create interstate air quality control region?
- Challenge of consistent and continuous representation on the JAC