Waste Policy Forum Proposed Border 2012 Waste Indicators

The following waste indicators were developed to inform the border communities and stakeholders of the measures being taken to improve their environment through the efforts of the U.S.-Mexico Border 2012 Environmental Program. Border 2012 is a collaborative, binational effort between the United States and Mexico designed "to protect the environment and health in the U.S.-Mexico border region, consistent with the principles of sustainable development." The program's framework document, signed on April 4, 2003, outlines six goals for Border 2012:

- Goal 1: Reduce water contamination
- Goal 2: Reduce air pollution
- **Goal 3: Reduce land contamination**
- Goal 4: Improve environmental health
- Goal 5: Reduce exposure to chemicals and hazardous substances
- Goal 6: Improve environmental performance

These indicators are linked to Goal 3, Reducing Land Contamination, of the Border 2012 Program and were developed to communicate important information about the border region and to evaluate progress made toward achieving the Program's Land Contamination (waste) objectives. The four waste Objectives are listed below and each Objective contains its own set of border indicators.

Objective/Indicator Number	Descriptions for Goal 3 (Land Contamination) Waste Indicators of Border 2012 Plan	Units of Measure	Data Availability	Data Source	Party/Persons Responsible for Collection & Processing	Cost of Data Collection & Processing for Measuring Indicator	Timeframe for Measuring Indicator	Baseline for Indicator	Feasibility of Establishing Baseline
Waste Objective 1: "Identify needs and develop an action plan to improve institutional and infrastructure capacity for waste management and pollution prevention as they pertain to hazardous and solid waste and toxic substances along the U.S.-Mexico border. Starting in 2005, the plan will be implemented and concluded by 2012."									
1.1	Number of programs or projects in the border region on the management of solid waste including source reduction and recycling (see Figure 1)	# of source reduction, recycling programs and projects, and permitted solid waste sites	Medium	EPA, PROFEPA, SEMARNAT & Delegados, Border States & municipalities	Rick Picardi, Edgar Del Villar, Luis Felipe & Carrillo Neri	Medium	Timed with Future Border 2012 Indicators Report	# of source reduction, recycling programs and projects, and permitted solid waste sites as of 2003	High
	Public Benefit of indicator 1.1	Source reduction avoids solid waste. Recycling diverts solid waste into productive uses. Permitted solid waste sites have liners and/or leachate collection systems that capture contaminants before they reach the soil and groundwater. This reduces the risk of polluted drinking water and groundwater contamination.							

1.2	Total amount of solid waste which is effectively managed or avoided in the border region including source reduction and recycling (see Table 1)	Tons (metric)	Medium	EPA and SEMARNAT, Border States & municipalities	Rick Picardi, Edgar Del Villar, Cesar Chavez Oritz	Medium	Timed with Future Border 2012 Indicators Report	Solid waste avoided by source reduction, solid waste recycled and capacity in permitted solid waste sites in 2003	High / Medium
	Public Benefit of indicator 1.2	Source reduction avoids solid waste. Recycling diverts solid waste into productive uses. Permitted solid waste sites have liners and/or leachate collection systems that capture contaminants before they reach the soil and groundwater. This reduces the risk of polluted drinking water and groundwater contamination.							
Objective / Indicator #	**Description of Border 2012 Goal 3 Indicator**	**Units of Measur.**	**Data Availability**	**Data Source**	**Party/Persons Responsible**	**Cost of Data Collection**	**Time-frame**	**Baseline**	**Feasibility of Baseline**
1.3	Completed Binational Action Plan on Capacity Building	Plan Completed	High	EPA Office of Solid Waste (OSW), SEMARNAT, & General Division of Integrated Management of Waste and Hazardous Activities (SEMARNAT Waste Office)	Rick Picardi & Alfonso Flores	Low (internal cost)	Completed	Not applicable	Not applicable
	Public Benefit of indicator 1.3	Capacity building efforts are focused on areas where greater knowledge and expertise can help reduce the risk of exposure to toxic substances.							

1.4	Number and type of projects developed under the Binational Action Plan to improve the institutional capacity and infrastructure for waste management in the border region	#, type, and descript-ion of projects implem-ented	High	EPA OSW, SEMARNAT & General Division of Integrated Management of Waste and Hazardous Activities (SEMARNAT Waste Office) , Border States & municipalities	Rick Picardi, Edgar Del Villar, Cesar Chavez Ortiz & Regional Waste Task Forces or equivalents	Low (internal cost)	Timed with Future Border 2012 Indicators Report	The baseline is zero, as of 2003	High
	Public Benefit of indicator 1.4	Capacity building efforts are focused on areas where greater knowledge and expertise can help reduce the risk of exposure to toxic substances.							
Obje-ctive / Indic-ator #	**Description of Border 2012 Goal 3 Indicator**	**Units of Measur.**	**Data Avail-ability**	**Data Source**	**Party/Persons Responsible**	**Cost of Data Collection**	**Time-frame**	**Baseline**	**Feasibility of Baseline**
Waste Objective 2: "Evaluate the hazardous waste tracking systems in the United States and Mexico. During the year 2006, develop and consolidate the link between both tracking systems."									
2.1	Electronically share import and export notice and consent information between the United States and Mexico	Complete or Not Complete	High	Hazardous Waste Task Force (HWTF) of Commission for Environmental Cooperation (CEC)	Rick Picardi & Jose Lorenzo	Low	By 2012	Not able to share import/e-xport data electroni-cally between U.S. and Mexico	High
	Public Benefit of indicator 2.1	Electronically sharing information will increase the countries' ability to effectively enforce import/export requirements, which will better ensure the hazardous waste is managed in an environmentally sound manner. This, in turn, will further reduce the risk of hazardous wastes.							

2.2	Create common data standards for notice and consent information	Complete or Not Complete	High	CEC HWTF	Rick Picardi & Jose Lorenzo	Low	To-be-determined	No standards in place to facilitate the electronic exchange of import/export data	High
	Public Benefit of indicator 2.2	Having common electronic data standards will increase the countries' ability to more effectively enforce import/export requirements.							
2.3	Amount of hazardous waste from the Maquiladoras* returned to the country of origin for final disposal or for recycling	Tons (metric)	Medi-U.S.-Mexico	SEMARNAT's tracking database on returns & EPA Region 6 database	SIRREP, Alfonso Flores, Raul Tornel & EPA OSW	Medium	Timed with Future Border 2012 Indicators Report	Tons of Returns in 2003	Medium
Obje-ctive / Indic-ator #	**Description of Border 2012 Goal 3 Indicator**	**Units of Measur.**	**Data Avail-ability**	**Data Source**	**Party/Persons Responsible**	**Cost of Data Collection**	**Time-frame**	**Baseline**	**Feasibility of Baseline**
Public Benefit of indicator 2.3		It is intended that hazardous waste from maquiladoras be shipped to U.S. ("country of origin") hazardous waste management facilities for recycling, treatment or disposal. This reduces the amount of hazardous waste in Mexico.							
2.4	Evaluate hazardous waste tracking procedures in the U.S. and México	Complet-ed Evaluati-on	High	EPA OSW & SEMARNAT	Rick Picardi & Alfonso Flores	Low	Completed	Not applicable	Not applicable
	Public Benefit of indicator 2.4	This evaluation lays the foundation for implementing the electronic data exchange of hazardous waste export and import data which will increase the countries' ability to more effectively enforce import/export requirements.							

* Maquiladoras are facilities that process materials imported into Mexico and produce goods for export. Maquiladoras are required to return all hazardous waste generated during the production process to the country who supplied the materials originally.

Waste Objective 3: "Clean up three of the largest sites that contain abandoned waste tires in the U.S.-Mexico border region, based on policies and programs developed in partnership with local governments."									
3.1	Percent of scrap tires removed at the three largest, selected tire piles in the border region	% of scrap tires removed at the 3 selected sites	High	SEMARNAT & EPA Regions 6 and 9, Border States & municipalities	Edgar Del Villar, Emily Pimentel, & Robby Snowbarger	Low	Timed with Future Border 2012 Indicators Report	Total percentage of tires in the 3 selected piles as of 2003 (i.e. before clean ups initiated)	High
	Public Benefit of indicator 3.1	Tire piles are ideal breeding grounds for mosquitoes, which are carriers for diseases including malaria, dengue fever, and West Nile Virus. Furthermore, tire piles may catch fire and burn for months at a time, releasing toxins into the air, soil, and groundwater. By removing scrap tires and cleaning up tire piles, human exposure to disease and pollution is minimized.							
Objective / Indicator #	**Description of Border 2012 Goal 3 Indicator**	**Units of Measur.**	**Data Availability**	**Data Source**	**Party/Persons Responsible**	**Cost of Data Collection**	**Time-frame**	**Baseline**	**Feasibility of Baseline**
3.2	Number of scrap tires removed during clean up at the three largest, selected tire piles in the border region	# of scrap tires removed at the 3 selected sites	High	SEMARNAT & EPA Regions 6 and 9, Border States & municipalities	Edgar Del Villar, Emily Pimentel, & Robby Snowbarger	Low	Timed with Future Border 2012 Indicators Report	Total number of tires in the 3 selected piles as of 2003 (i.e. before clean up initiated)	High

	Public Benefit of indicator 3.2	Tire piles are ideal breeding grounds for mosquitoes, which are carriers for diseases including malaria, dengue fever, and West Nile Virus. Furthermore, tire piles may catch fire and burn for months at a time, releasing toxins into the air, soil, and groundwater. By removing scrap tires and cleaning up tire piles, human exposure to disease and pollution is minimized.							
3.3	Number of medium and large[†] scrap tire piles cleaned up in the entire border region	# of scrap tire piles cleaned up in the border region	High	SEMARNAT & EPA Regions 6 and 9, Border States & municipalities	Edgar Del Villar, Emily Pimentel & Robby Snowbarger	Low	Timed with Future Border 2012 Indicators Report	# of medium and large scrap tire piles cleaned up by 2003	High
	Public Benefit of indicator 3.3	Tire piles are ideal breeding grounds for mosquitoes, which are carriers for diseases including malaria, dengue fever, and West Nile Virus. Furthermore, tire piles may catch fire and burn for months at a time, releasing toxins into the air, soil, and groundwater. By removing scrap tires and cleaning up tire piles, human exposure to disease and pollution is minimized.							
3.4	Inventory of medium and large waste tire piles by location	Report & map	Medi-um	EPA OSW, SEMARNAT, EPA Regions 6 and 9, Border States & municipalities	Rick Picardi & Edgar Del Villar, Border	$18K (U.S. Dollars)	Timed with Future Border 2012 Indicators Report	Zero, as of 2003	High
	Public Benefit of indicator 3.4	Tire piles are ideal breeding grounds for mosquitoes, which are carriers for diseases including malaria, dengue fever, and West Nile Virus. Furthermore, tire piles may catch fire and burn for months at a time, releasing toxins into the air, soil, and groundwater. By removing scrap tires and cleaning up tire piles, human exposure to disease and pollution is minimized.							
Objective / Indicator #	**Description of Border 2012 Goal 3 Indicator**	**Units of Measur.**	**Data Availability**	**Data Source**	**Party/Persons Responsible**	**Cost of Data Collection**	**Time-frame**	**Baseline**	**Feasibility of Baseline**
3.5	Actions and programs developed and implemented for clean up and prevention of waste tire piles in the border region	# of programs and actions implem-ented	High	Border Scrap Tire Group, Border States & municipalities	Ellie Kanipe, EPA Regions 6 and 9	Low	Timed with Future Border 2012 Indicators Report	Number of actions and programs before 2003	High

[†] Large tire piles are defined here as those exceeding 50,000 tires. Medium tire piles are defined here as those ranging from 10,000 to 49,999 tires. These definitions stand for the entire document.

	Public Benefit of indicator 3.4	Tire piles are ideal breeding grounds for mosquitoes, which are carriers for diseases including malaria, dengue fever, and West Nile Virus. Furthermore, tire piles may catch fire and burn for months at a time, releasing toxins into the air, soil, and groundwater. By preventing the creation of scrap tire piles, human exposure to disease and pollution is minimized.							
Waste Objective 4: "Develop a binational policy of clean-up and restoration resulting in the productive use of abandoned sites contaminated with hazardous waste or materials, along the length of the border, in accordance with the laws of each country. By 2007, apply this policy at least once in each of the four geographic regions."									
4.1	Number of actions implemented to remove waste or reduce risk *[Examples of "actions" include installing fencing, removing contaminated soil/containers, and installing wells to pump out contaminated groundwater.]*	# of actions implem-ented	High	Regional Waste Task Forces or equivalents, EPA & SEMARNAT, Border States & municipalities	Emily Pimentel, Gina Weber, Alfonso Flores, Juan Manuel Aguilar Estévez, Edgar Del Villar & Alexandra González Narro, EPA Regions 6 and 9	Low	Timed with Future Border 2012 Indicators Report	Zero, as of 2003	Medium-High
	Public Benefit of indicator 4.1	Eliminating soil, water and air contamination at contaminated site reduces the risk for exposure to toxic substances in nearby communities. This, in turn, reduces the risks of disease and ecological damage caused by contamination. Specific benefits depend on the nature and extent of the site's contamination.							
Obje-ctive / Indic-ator #	**Description of Border 2012 Goal 3 Indicator**	**Units of Measur.**	**Data Avail-ability**	**Data Source**	**Party/Persons Responsible**	**Cost of Data Collection**	**Time-frame**	**Baseline**	**Feasibility of Baseline**
4.2	Inventory prepared of contaminated hazardous waste sites in the border region	Written Report	High	EPA OSW, SEMARNAT & SISCO‡	Alfonso Flores & Rick Picardi	Medium	Timed with Future Border 2012 Indicators Report	Zero, as of 2003	High
	Public Benefit of indicator 4.2	An inventory of contaminated sites allows Mexico and the U.S. to identify those sites that pose the most significant risk to human and environmental health and apply resources in an effort to reduce the risk of exposure to surrounding communities more effectively.							

‡ SISCO is el Sistema Informático de Sitios Contaminados de SEMARNAT (SEMARNAT's Information Technology System of Contaminated Sites). SISCO is a tool used by SEMARNAT to identify contaminated sites and to prioritize them according to the environmental risk they pose. The system was designed in 2003 and implemented the following year (source: http://www.semarnat.gob.mx/gestionambiental/Materiales%20y%20Actividades%20Riesgosas/sitioscontaminados/sisco/sisco.pdf).

4.3	Develop a remediation plan for each of the four chosen contaminated sites	Written Plan	High	EPA Regions 6 and 9 & SEMARNAT	Rick Picardi & Alfonso Flores	Medium	By 2011	Zero, as of 2003	High
	Public Benefit of indicator 4.3	A remediation plan helps cleanup teams focus their early efforts on those areas within a contaminated site that are likely to pose the greatest risk of exposure and complete the remediation in a way that reduces risk to the greatest number of people with the resources available.							
4.4	Remedial action has begun for each of the four chosen contaminated sites	# of remediat-ion plans implem-ented	High	EPA Regions 6 and 9 & SEMARNAT	Rick Picardi & Alfonso Flores	Medium	By 2011	Zero, as of 2003	High
	Public Benefit of indicator 4.4	The start of remediation action is a good indicator of whether remediation, the most environmentally significant step in a clean-up, will be completed at a site. Eliminating soil, water and air contamination at hazardous waste sites reduces the risk for exposure to toxic substances in nearby communities. This, in turn, reduces disease risk and ecological damage caused by contamination. Specific benefits depend on the nature and extent of the site's contamination.							

Figure 1: Map of source reduction and recycling programs and projects, and permitted solid waste sites constructed in the border region.

[No source reduction, recycling or permitted site data has been added yet.]

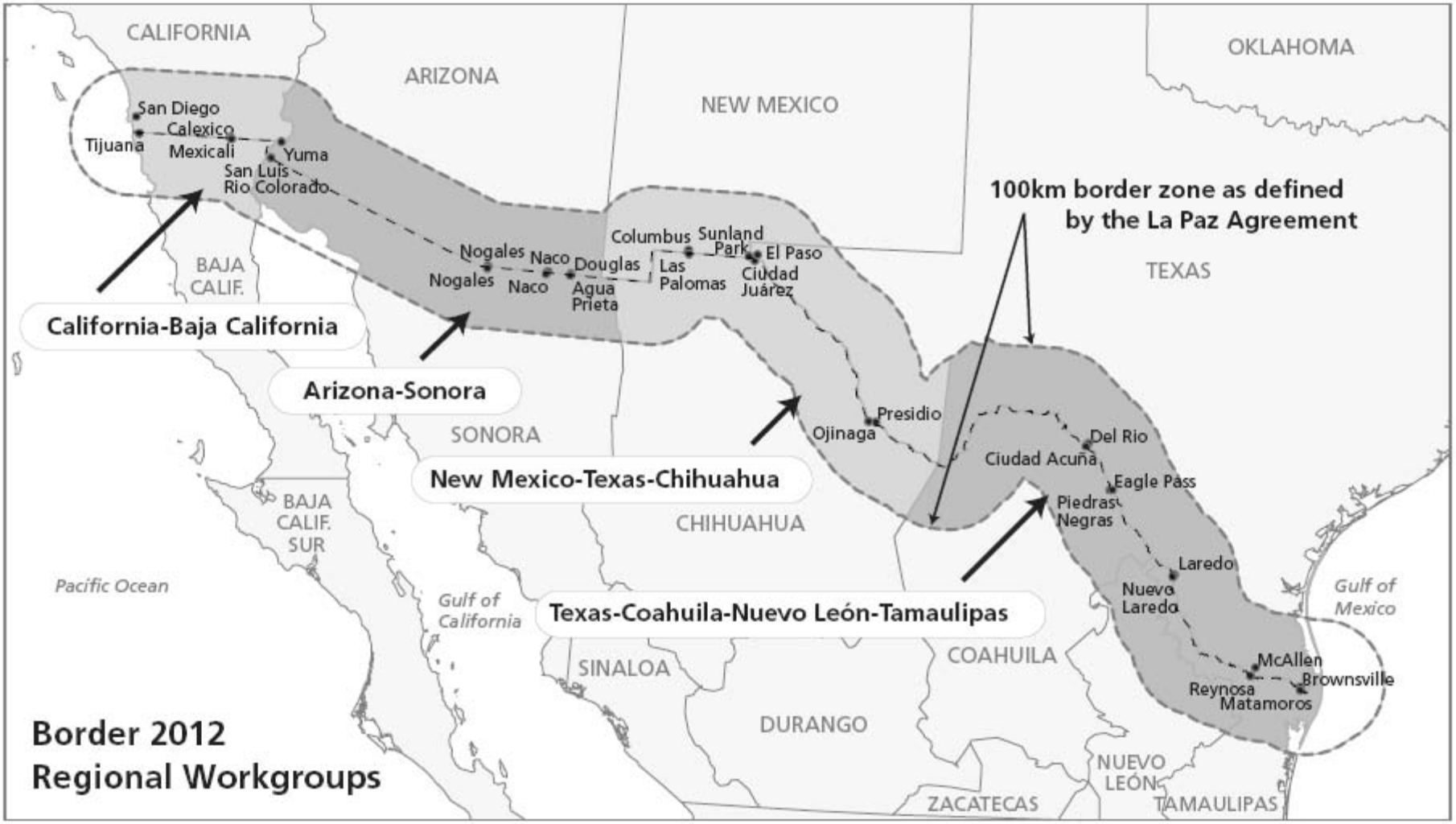
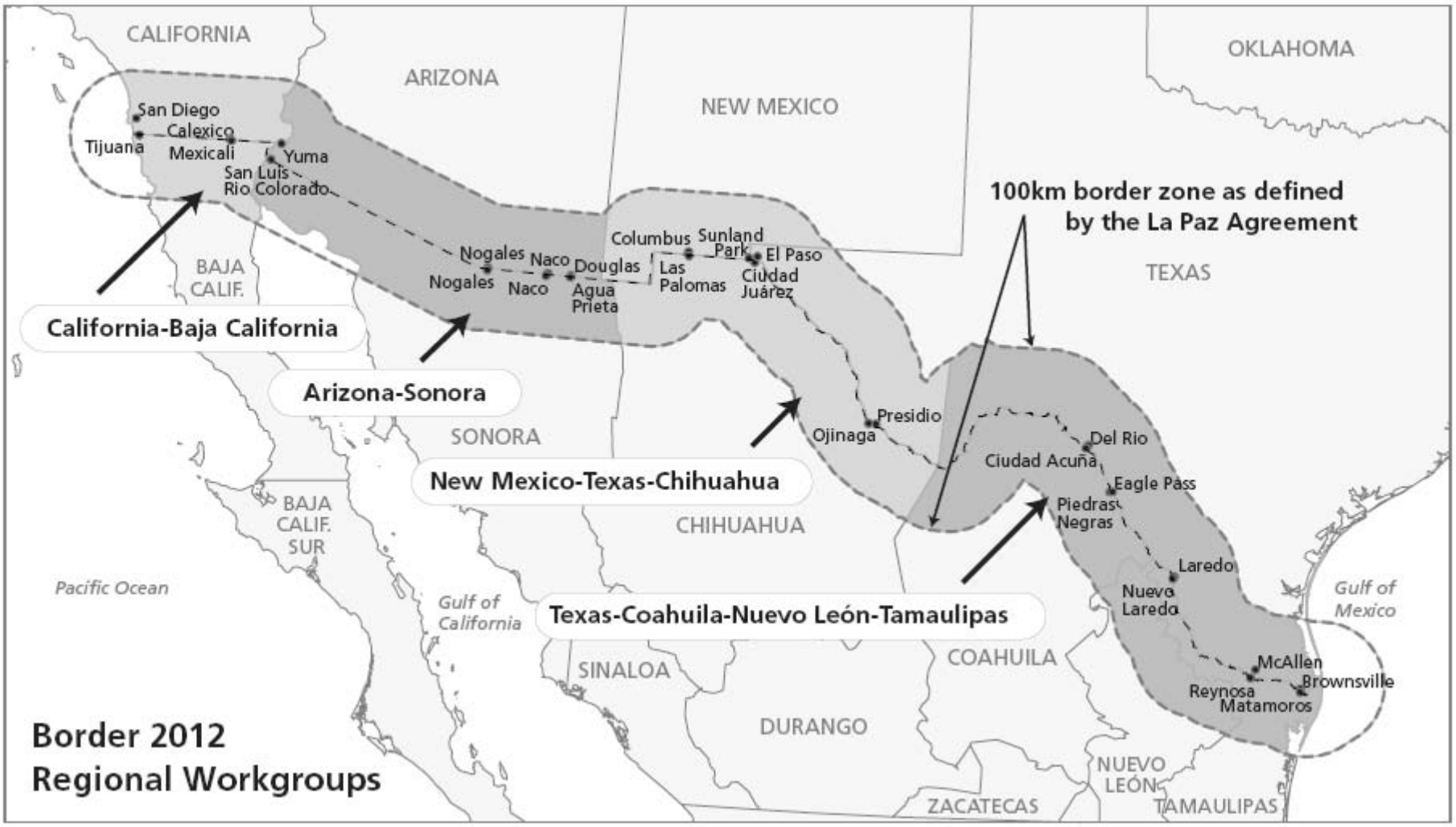


Figure 2: Map of source reduction and recycling programs and projects, and permitted solid waste sites under development in the border region.

[No source reduction, recycling or permitted site development data has been added yet.]



If you have any data or information to provide that would help the U.S.-Mexico Border 2012 waste program measure the indicators above, please e-mail your data to Rick Picardi at: picardi.rick@epa.gov