

United States – Mexico Transboundary Aquifer Assessment Program

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U.S.-Mexico

Transboundary Aquifer Assessment Act

U.S. Public Law 109-448 (Dec. 22, 2006)

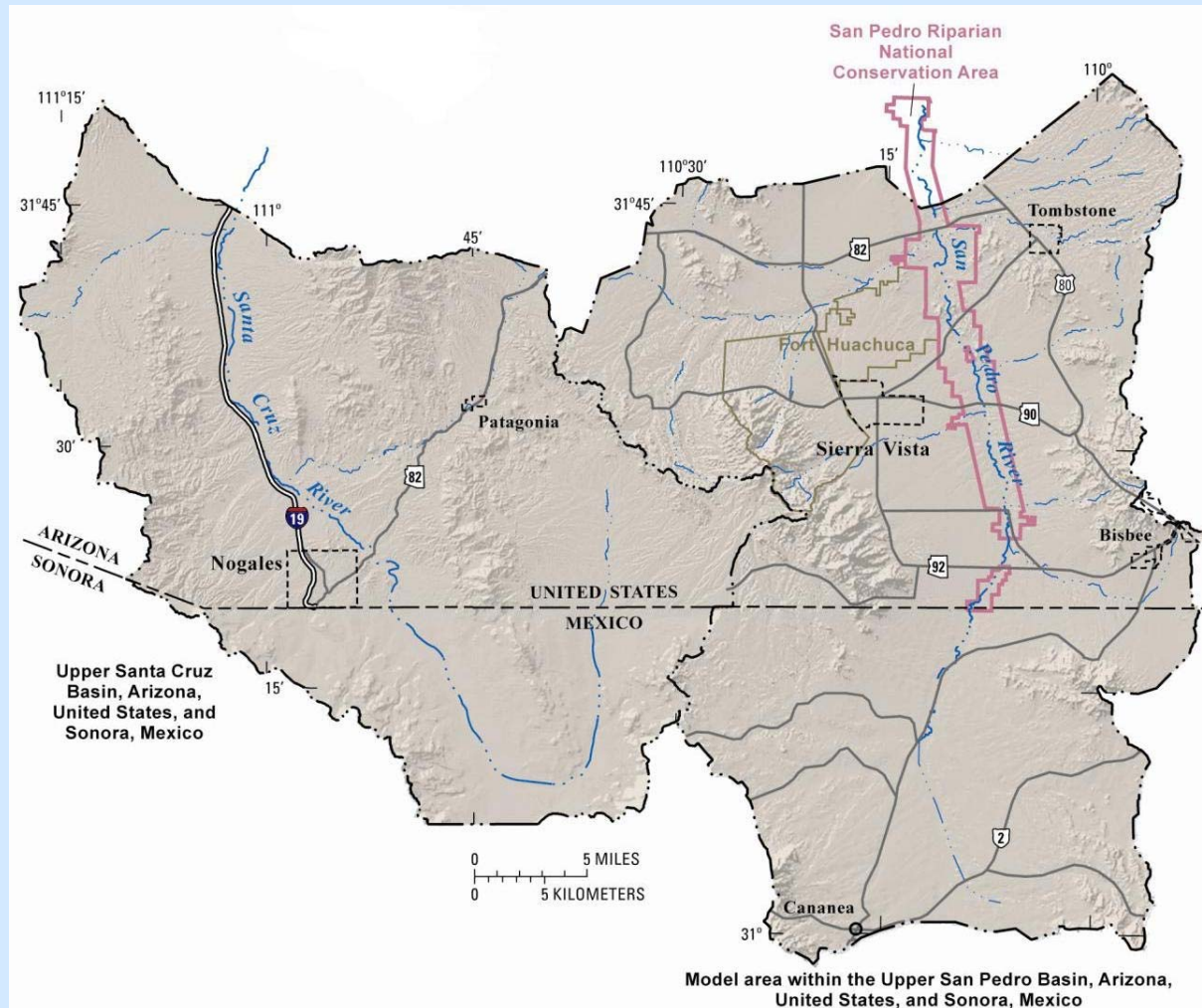
- Objectives
 - Integrated scientific approach to assess priority transboundary aquifers
 - Produce scientific products...that are capable of being broadly distributed and provide scientific info. needed by water managers and natural resource agencies on both sides of the border
- 10 year, \$50 million authorization
- USGS lead agency on behalf of the Secretary of the Interior
- Water Resource Research Institutes (WRRC in AZ) are the lead non-federal collaborators
 - Participating states: Arizona, New Mexico and Texas
- FY08 and FY09 budgets included \$500,000 for entire program

Partnerships are Fundamental to the TAAP

- Secretary of Interior (through USGS) directed to collaborate with:
 - State water resource agencies
 - Any affected Indian tribes
 - Others monitoring/ metering water
 - International Boundary and Water Commission “as appropriate”
 - Mexico
- Financial arrangements
 - 50% of appropriations to USGS
 - 50% of appropriations to Water Institutes/Centers
 - No legislated split across participating states
 - Water Institutes/Centers may subcontract with partners, including Mexico

Arizona's Two Priority Aquifers are the Santa Cruz and San Pedro

Focus is on aquifers related to rivers, both of which flow north as Colorado River tributaries.



Background Information

Santa Cruz

- River begins and ends in US
- Combined population of Ambos Nogales between 300,000 and 400,000
- Intensive mining both historic and current; source of contamination
- Aquifers not extensive
- AZ water law encourages maximal pumping until water rights are legally established
- Number of modeling efforts, none binational

San Pedro

- Population ~ 150,000
- San Pedro National Riparian Conservation Area: > 300 bird species, endangered Sonoran pronghorn
- Fort Huachuca Army Garrison
- Congressionally mandated maintenance of sustainable yield
- 3rd largest copper deposit in the world at Cananea
- Number of modeling efforts. Some consider aquifer on both sides of border.

Baseline Situation

- Rapid population growth
- Arid environment, declining water tables, and contamination (lack of even basic sewage treatment in some Mexican cities)
- Aquifers are important water source
- Lack of integrated water resources management reflected in institutional asymmetries
 - Role of national governments different with respect to groundwater
 - Federal responsibility in Mexico
 - Significant state level responsibility in US
 - International Boundary and Water Commission (IBWC) in US focuses on surface water, not groundwater.

Current Activities

- Working to establish binational work plans for both aquifers
- Databases under development
- Santa Cruz
 - Long-standing cross-border ties for the Santa Cruz aquifer
 - U.S. portion of Santa Cruz aquifer in an Active Management Area
- San Pedro
 - Newer cross-border relationships for the San Pedro
 - More physical distance between the population centers along the San Pedro
- Working to establish official cross-border data sharing and other relevant protocols with IBWC

Stakeholder Involvement Opportunities

- Cross-border meetings and field trips have involved numerous governmental and non-governmental stakeholders
- Bilingual materials



Paredes Infiltration Gallery, Mexico

Número de Identificación	Título	Clave #1	Clave #2	Clave #3
1	Hydrologic Effects of Vegetation Changes Along the Santa Cruz River near Tulecaoc, Arizona	Inundación	Manejo	Vegetación
9	Simulation of Ground-water Flow and Potential Land Subsidence, Upper Santa Cruz Basin, Arizona	Modelaje	Agua Subterránea	Bombeo
31	Gravity Analysis of the Subsurface Structure of the Upper Santa Cruz Valley, Santa Cruz County, Arizona	Gravedad	Geología	Almacenamiento
60	Designated Critical Ground Water Areas and Impaired Wells: Santa Cruz - San Pedro River Basins, Arizona	Riego	Uso del Agua	Agricultura
65	Cross-sectional areas of the shallow alluvial aquifer as indicated along the upper Santa Cruz River, Arizona	Geología	Datos de Pozos	Propiedades de acuíferos
74	Desarrollo de la Capacidad de Reservación de Cuenca Pómez para Abastecimiento Industrial de la Ciudad de Nogales, Sonora y Estructuras de la Damanda Actual y Futura	Arroyo Los Nogales	Bombeo	Calidad
81	Proyecto Integral Para Uso de Agua Potable, Transmisión, y Recarga en Nogales, Sonora	Nogales	Manejo	Tratamiento

RESUMEN: Programa de Evaluación de Acuíferos Transfronterizos E.E.U.U. – México: Sección- Arizona (TAAP-AZ)

Acerca del Programa

El TAAP tiene su origen en la Ley Pública 109-448, firmado por el Presidente el 22 de Diciembre de 2006, como el Transboundary Aquifer Assessment Act. El Acta aplica a los estados de Texas, Nuevo México, y Arizona donde cuatro acuíferos transfronterizos han sido designados para evaluación prioritaria; siendo el Hueco Bolsón y Mesilla en la región de El Paso / Ciudad Juárez y los acuíferos de las Cuencas Altas del Río Santa Cruz y Río San Pedro en la región fronteriza de Arizona – Sonora (vea mapa). El TAAP tiene un mandato para 10 años, con \$50 millones de dólares autorizados para apropiarse durante este periodo.

Representative List of Stakeholders working with USGS and Univ. of AZ

<u>Mexico, governmental</u>	<u>U.S., governmental</u>	<u>Binational</u>	<u>Non- governmental</u>	<u>Mexican academic</u>
Comisión Nacional del Agua (CONAGUA)	Arizona Department of Water Resources (ADWR)	International Boundary & Water Commission (IBWC) / Comisión Internacional de Límites y Aguas (CILA)	Friends of the Santa Cruz River (FOSCR)	Universidad de Sonora, Instituto Tecnológico de Sonora (ITSON)
Comisión Estatal del Agua (CEA) Sonora	U.S. Bureau of Reclamation (USBOR)		Sonoran Institute	Colegio de Sonora
Organismo Operador Municipal de Agua Potable, Alcantarillado y Saneamiento (OOMAPAS) Nogales	City of Nogales, Arizona		Water Committee of Arizona-Mexico Commission	Centro de Estudios Superiores del Estado de Sonora (CESUES)

Santa Cruz and San Pedro Aquifers are a Case Study for ISARM

- UNESCO's Internationally Shared Aquifer Resources Management (ISARM) Program now includes as a case study TAAP Arizona-Sonora. (Note: San Pedro already a UNESCO HELP basin.)
- This will facilitate additional opportunity for stakeholder collaboration and interaction
 - Workshop in early planning stages for Fall 2009.

Intensive work will continue...expecting larger federal appropriations in FY2010

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Web site under development

www.cals.arizona.edu/azwater/taap