


TECHNICAL ASSISTANCE PROJECT FACTSHEET



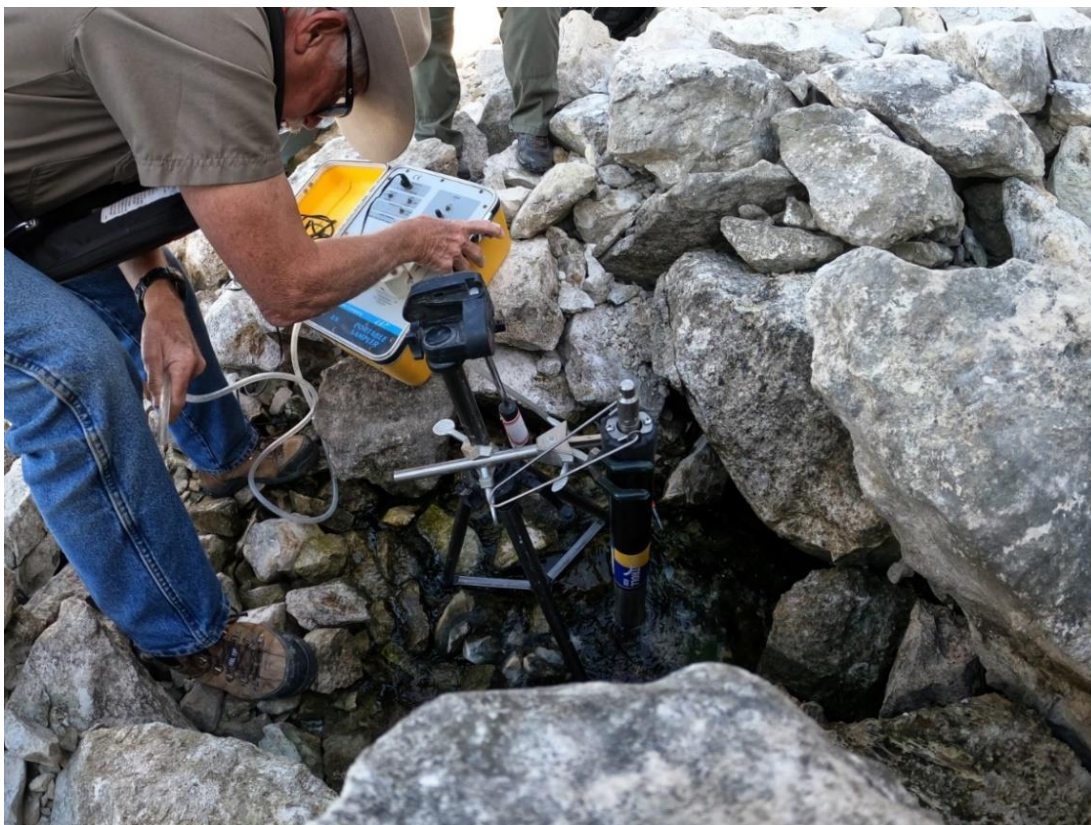
Project Name:	Applying hydrogeochemistry to refine hydrologic conceptualization of Amistad Reservoir region		
TAP Number:		Start Date:	08/15/22
Project Location:	Del Rio, Texas and Ciudad Acuña, Coahuila	Completion Date:	11/15/23
Project Sponsor:	Southwest Research Institute	Closeout Report Date:	
TA Fundamental Objective:			
Improve scientific understanding of water resources in the Amistad Reservoir region shared by the United States and Mexico		 <p style="text-align: center; color: green;">Location map</p>	
TA Scope:			
Compile pre-existing environmental (e.g., hydrologic and geochemical) data from the Amistad Reservoir region in Texas and the State of Coahuila de Zaragoza. Identify additional sites in Coahuila and Texas for water sampling. Conduct water-sampling of the selected wells, springs, and surface-water sites. Send the samples for laboratory analyses encompassing a comprehensive geochemical suite (major ions, metals, and isotopes). Evaluate the pre-existing and newly-collected data to assess points of interest in improving conceptualization of water resources in the Amistad Reservoir region.			
The Results			
<p>-Fifteen selected sites were sampled during Spring 2023.</p> <p>-The samples were analyzed for major ions, metals, and isotopes at laboratories.</p> <p>-The water chemistry data were used to examine geochemical trends in the Amistad Reservoir region, such as understanding general water composition and further constraining spring source areas.</p>		TA FUNDING: US\$	
		TA Approved:	\$94,852.48
		Contracted:	
		Disbursed:	
Outputs		Sources of Funding:	
<ul style="list-style-type: none"> - Additional water chemistry data for Coahuila and Texas, especially for Coahuila, including from watersheds not sampled previously. 		JTAP:	
<ul style="list-style-type: none"> - A refined delineation of Goodenough Spring's source area and preliminary analysis of other major springs in the region that may be targeted for future research (e.g., Lourdes Spring and August 		Other Funds:	

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Spring).			
<ul style="list-style-type: none"> - Strengthened bonds among team of collaborators (Southwest Research Institute, IBWC/CILA, U.S. NPS, landowners, and Texas Water Resources Institute) equipped to involve additional stakeholders to pursue further research regarding the natural resources of the Amistad Reservoir region. The project sponsor and collaborators are actively pursuing additional funding through other programs for researching transboundary water resources and enhancing water security and climate resiliency of local and regional communities. 		Total:	
Benefited Population:	Communities within the Rio Bravo/Rio Grande Valley around and downstream of the Amistad Reservoir		

Photos



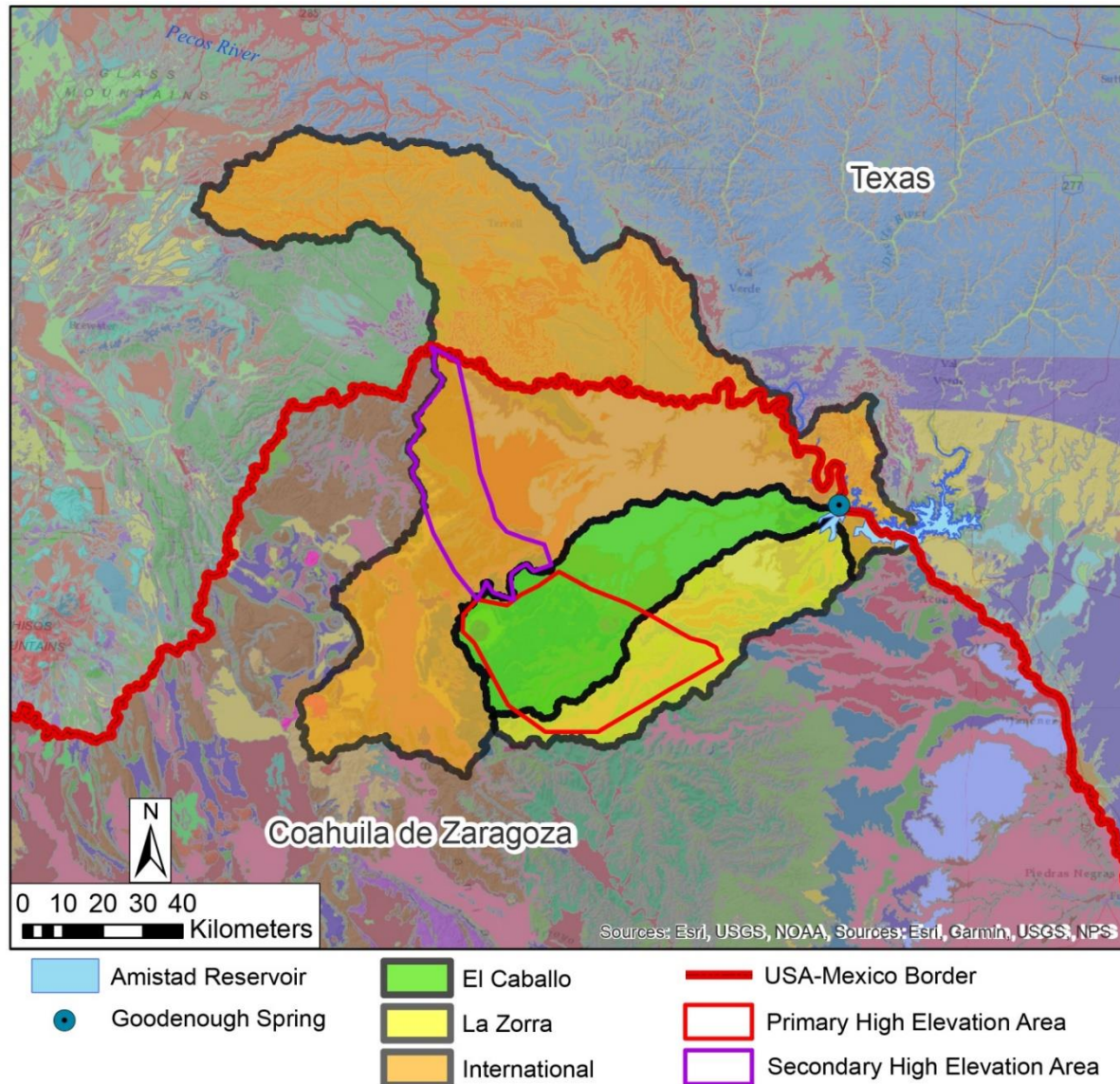
SwRI staff member sampling groundwater from Indian Springs using peristaltic pump and water quality probe (photo credit: Jack Johnson, NPS).

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SwRI staff sampling CO-CLZ (La Zorra tinaja site) (photo credit: Dr. Andy Gluesenkamp).

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Refined delineation of Goodenough Spring catchment area based on major ion chemistry and isotope analyses, with (i) El Caballo watershed as the primary recharge component, (ii) La Zorra watershed as a secondary recharge component, and (iii) a greater transboundary recharge component in the Rio Bravo/Rio Grande-Amistad watershed; high elevation areas are most probable areas where meteoric water recharges Goodenough Spring