

San Antonio/Bexar County, Texas
Urban Waters Project
2014 Work Plan



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Background

The Urban Waters program strives to incorporate new project locations to focus national attention on urban water issues. As outlined in the Urban Waters Strategic Framework, restoring America's urban waters and reconnecting communities to their urban water environments will require cooperation between all Urban Waters partners to help communities grow in ways that protect public health and the environment, expand economic opportunity, and create and enhance the places where people live. Through the selected projects of the San Antonio/Bexar County location the area hopes to achieve numerous goals of the Urban Waters Federal Partnership, including the goal to seek to help communities – especially underserved communities – as they work to access and improve the benefits of their urban waters and the surrounding land.

A fundamental piece of the 13 signatory federal partnership is leveraging existing federal programs to support projects and build partnerships with a variety of federal, state, local, and private partners that foster their increased connection, understanding, and stewardship of local waterways. The Environmental Protection Agencies' Urban Waters vision states that the combined efforts of numerous partners and stakeholders will “restore urban water quality, revitalize our communities and reconnect communities to their urban waterways.” The collaboration will provide the following:

- Align federal government programs and investments in these communities;
- Expand partnerships;
- Build local capacity; and
- Find innovative ways to communicate the environmental and economic potential of safe and clean waters

The federal partnership's approach in achieving these goals is outlined in the Urban Waters Strategic Framework. For more information on the Urban Waters movement, please visit www.epa.gov/urbanwaters. For more information on the federal partnership, please visit www.urbanwaters.gov.

The Urban Waters effort is anchored in a simple theory: if we better engage communities in efforts to improve and protect water quality, those efforts will be more powerful.

Federal Agency Partnerships

- Department of Agriculture

- U.S. Forest Services
- Natural Resource Conservation Service
- Department of Commerce
 - Economic Development Administration
 - National Weather Service
- Department of Defense
 - U.S. Army Corps of Engineers
 - Joint Base San Antonio
- Department of Health and Human Services
- Department of Housing and Urban Development
- Department of the Interior
 - Fish and Wildlife Service
 - National Park Service
 - Bureau of Reclamation
 - U.S. Geological Survey
- Department of Transportation
- Environmental Protection Agency

State Agency Partnerships

- Texas Commission of Environmental Quality
- Texas Health and Human Services
- Texas Department of Transportation
- Texas General Land Office
- Texas Historical Commission
- Texas Parks and Wildlife
- Texas State Forestry Division
- Texas Water Development Board

Local Government Agency Partnerships

- Alamo Area Council of Governments
- Alamo Area Metropolitan Planning Organization
- Bexar County
- City of Alamo Heights
- City of San Antonio
- Edwards Aquifer Authority
- San Antonio Housing Authority
- San Antonio Independent School District
- San Antonio River Authority

- San Antonio Water System
- VIA Metropolitan Transit

Non-Governmental Organization Partnerships

- Audubon Society/Jack Kudson Nature Trail
- CI: Now
- Evergreen Underground Water Conservation District
- Family Service Association
- Neighborhood Associations (specify) – Olmos Park Terrace, Northmoor, Shearer Hills/Ridgeview
- Municipal Golf Association – San Antonio
- NOWCastSA
- Olmos Basin Alliance
- Our Lady of the Lake University
- San Antonio Chamber of Commerce
- San Antonio for Growth on the Eastside
- San Antonio Hispanic Chamber of Commerce
- San Antonio Zoo
- St. Luke’s Episcopal Church
- St. Phillips College
- Texas A&M – San Antonio
- Trust for Public Lands
- United Way of San Antonio and Bexar County

Overall Goals/Objectives

The San Antonio/Bexar County Urban Waters project location will work to protect, restore, and revitalize urban water resources in the San Antonio/Bexar County area and the watershed associated with the focus areas identified by the partnership. The partnership will use the mission, vision, and principles of the National Urban Waters Federal Partnership to guide the work:

- Promote clean urban waters
- Reconnect the citizens to their waterways
- Promote water conservation
- Promote economic revitalization and prosperity through existing networks of urban water resources
- Encourage community involvement through partnership
- Engage and hear the needs of the community involved

- Focus on measurement and evaluation to fuel future successes

Identified Focus Areas

Project 1: Brackish Groundwater Desalination

Overview: The San Antonio Water System (SAWS) is developing a brackish groundwater desalination program that will provide a plentiful, previously untapped local source of water to help diversify the regions' water supplies. The program will generate approximately 12 million gallons of water per day upon completion of Phase I by treating brackish water from the Wilcox Aquifer through the reverse osmosis process and bringing it to drinking standards. Two additional phases will deliver a total of more than 27 million gallons per day.

In addition to providing a new source of water that will help mitigate the effects of sustained drought in the area, the Brackish Groundwater Desalination Program will also help preserve endangered species within the Edwards Aquifer and its natural springs. The Edwards Aquifer is the source of the only two major springs remaining in Texas – the San Marcos and the Comal – which are home to several endangered species and feed the Guadalupe River Basin. The development of unused brackish water in the Wilcox Aquifer will decrease reliance on the Edwards Aquifer during drought periods, thus promoting the viability and sustainability of environmentally sensitive ecosystems. The Edwards Aquifer is a unique groundwater resource, extending 180 miles through south-central Texas, including San Antonio. It is the primary source of drinking water for over 2 million people and serves the domestic, agricultural, industrial, and recreational needs of the area.

On July 2, 2014, SAWS broke ground on the brackish water desalination plant. The plant is slated to begin providing the initial 12 million gallons of drinkable water by October 2016, creating water for an additional 40,000 families.

The plant will remove 97 percent of salt and minerals.

All three phases of the desalination plant will cost a combined \$411 million. Cost for the first phase will be \$192.7 million.

Desalinating the water alone will cost \$1,177 per acre-foot for the first phase. In contrast, water from the Edwards Aquifer costs between \$331 and \$541 per acre-foot.

Federal Partner Leads: Bureau of Reclamation, U.S. Army Corps of Engineers.

Partners/Stakeholders: City of San Antonio

Year 1 Activities: Brackish Groundwater Desalination Phase 1 – Construction begins

Year 2 Activities: Brackish Groundwater Desalination Phase 2 – begin generation and delivery of approximately 12 million gallons of potable water per day

Project 2: Olmos Basin/San Antonio Zoo Water Quality and Ecosystem Restoration

Overview: Olmos Creek flows through Olmos Basin Park, a 1000 acre regional park located in north central San Antonio, and terminates at Olmos Dam, where it feeds into the source of the San Antonio River. The San Antonio Zoo is located near these headwaters below Olmos Dam in Brackenridge Park. This project intends to restore a 3 mile segment of Olmos Creek, create a pilot project to prevent floatable plastics and debris from entering the creek, engage the Texas Department of Transportation (TxDOT) to address the continual flooding of the section of U.S. Highway 281 that crosses Olmos Creek, and expand the filtration and recycling of water runoff from the San Antonio Zoo into the San Antonio River.

The Olmos Creek restoration project responds to the San Antonio North Central Community Plan goal for restoring the natural beauty and habitat to the Olmos Basin Park and would complement community investments in park rehabilitation. Concept designs for the restoration project combines water quality improvements such as improving flow and temperature by removing non-native invasive plant and tree species and restoring the ecosystem to create a more natural habitat and creek way by planting native species.

The U.S. Army Corps of Engineers (Corps) completed a restoration plan for Olmos Creek that identified the environmental degradation, evaluated alternatives, and provided creek restoration design recommendations. In 2002, the City of San Antonio began planning this project with the Corps; however, federal funding was not authorized until 2009 at which point the City was unable to secure required match funds and program sponsorship. In March, 2014, the Corps notified the City of San Antonio that the project has been funded. The partnership will engage TxDOT to assess potential steps to address the flooding of U.S. Highway 281 which represents a serious threat to public health and safety as well as economic losses.

The San Antonio Zoo currently pumps water from the Edwards Aquifer for animal displays and discharges directly into the San Antonio River. Bacteriological readings near the Zoo's discharge have measure level of bacteria many times greater than what the EPA considers safe for swimming. To address this issue and improve water quality, an ultraviolet treatment facility is being constructed to disinfect water before it is released into the river. This new filtration project

merits expansion to eliminate point source pollution by ensuring water is filtered before entering the San Antonio River.

Federal Partner Leads: Environmental Protection Agency, U.S. Army Corps of Engineers.

Partners/Stakeholders: Audubon Society/Jack Judson Nature Trail, Brackenridge Park Conservancy, City of Alamo Heights, City of San Antonio, Municipal Golf Association – San Antonio, Northmoor Neighborhood Association, Olmos Basin Alliance, Olmos Park Terrace Neighborhood Association, San Antonio Golf Association, San Antonio River Authority, San Antonio Water System, San Antonio Zoo, Shearer Hills/Ridgeview Neighborhood Association, St. Luke’s Episcopal Church.

Year 1 Activities: Olmos Creek Ecosystem Restoration – Initiate Design Phase.

San Antonio Zoo Water Quality – Monitor bacteria levels from zoo and when bacteria reductions calculated determine when and whether segment can be removed from the 303(d) list. Ultimate goal is to make segment meet primary contact recreation standards.

Year 2 Activities: Olmos Creek Ecosystem Restoration – Design Phase Completed; Construction/Restoration begins.

Project 3: (A) Eastside Promise Neighborhood/Choice/Promise Zone & (B) Salado Creek Greenway

Overview:

(A) San Antonio’s near east side, historically the heart of the African-American community, is still home to a large concentration of the city’s African-American population and a growing number of Hispanic residents. Starting in 2011, this area has received several federal grants and designations: Promise Neighborhood, Choice Neighborhood, Byrne Criminal Justice Innovation Grant, and most recently the Promise Zone designation. The convergence of these designations demonstrates the continued potential for overlapping federal grants to promote comprehensive and holistic community development in this high need area.

In 2011, the area was chosen as one of five Department of Education implementation sites for the Promise Neighborhoods initiative. The program strives to provide access to great schools and strong systems of family and community support to prepare children to attain an excellent education and a successful transition from cradle to career. Through these efforts, the program significantly improves educational and developmental outcomes in distressed communities. The Promise Neighborhood is also focused on improving community support networks for students, decreasing crime rates, and improving perceptions of community safety.

The San Antonio Housing Authority secured funding from the Department of Housing and Urban Development's (HUD) Choice Neighborhoods program to invest in a neighborhood that overlaps with the Eastside Promise Neighborhood. The Choice Neighborhoods initiative has developed a neighborhood transformation plan to develop a revitalized, mixed-income, low-impact, safe, and walkable community where residents have access to new parks and recreational opportunities along Menger Creek. The implementation plan is divided into three core elements: Housing, People, and Neighborhoods. The Housing element includes transforming distressed housing into energy-efficient, mixed-income housing. New housing options will be built to achieve Build San Antonio Green Level II, Enterprise Green Communities criteria or both. Additionally, all new developments and infill housing will have to be able to meet and obtain the ENERGY STAR seal of approval. The transformation plan is also pursuing USGBC LEED certification for Neighborhood Design (LEED-ND). In pursuing the LEED-ND certification, the Wheatley Choice Neighborhood will pursue low impact development (LID) strategies to effectively manage storm water in a way that reduces the impact of built areas on water quality and promotes the natural movement of water within an ecosystem. These certifications will demonstrate work to reduce greenhouse gas emissions, minimize construction wastes, and promote healthy living environments for neighborhood residents. The Neighborhood element addresses vacant lots and houses, seeks to revitalize public spaces, strengthen safety and security, and expand and diversify economic activities. One of the Neighborhood goals is to improve access and connectivity while prioritizing pedestrian and bicycle transportation. Green spaces in the Wheatley Choice Neighborhood will be developed to include the recommendation of microclimate-appropriate landscaping.

In 2012, the San Antonio Housing Authority also secured funding through the Byrne Criminal Justice Innovation grant for safety improvements in the Promise/Choice Neighborhood. The goal is to significantly reduce criminal activity in San Antonio's eastside through a data-driven approach that uses both research and innovation to address crime.

Most recently, the area received a Promise Zone designation from HUD. This designation and subsequent federal support and funding will contribute to community investment by promoting economic development through increased economic activity and job creation, supporting and expanding educational opportunities, and improving public safety. This Promise Zone designation will last for 10 years and will promote further collaborative efforts within the neighborhood to continue to serve the residents.

(B) The Salado Creek Greenway trail system lies just to the east of the Eastside Promise/Choice Neighborhood. Menger Creek, a tributary of Salado Creek, is located within the area and is directly accessible to its residents. One of the goals of the Choice Transformation Plan is to connect to surrounding green space networks. Therefore focused investment at Menger Creek and Salado Creek could greatly expand the outdoor recreational options available to residents of

the Promise/Choice Neighborhood. The City of San Antonio, working in conjunction with the US Army Corps of Engineers, private landowners, and local partners has developed a greenway hike and bike trail system along Salado Creek. The Greenway Trail System links communities across Bexar County to creeks and rivers providing recreational, health, educational, and engagement opportunities. A planned section of the Salado Creek trail will be adjacent, and may potentially pass through, Fort Sam Houston, allowing military personnel to benefit from the Greenways. A unique trail and park development opportunity also exists at Menger Creek, where a drainage and flood control improvement city bond project is planned to reduce the 100-year flood zone. In early February 2014, Bexar County committed \$4 million to the Menger Creek project, allowing for an expanded scope that will include trail construction and park improvements along the Creek. Additionally, the City of San Antonio dedicated \$6.5 million to this project. Stakeholders are also reaching out to the San Antonio Spurs, an NBA team, and other business partners to garner their support of these developments and increase community access to the creek to include trails, recreational activities, and programming.

Federal Partner Leads: (A) Housing and Urban Development, Economic Development Administration, Health and Human Services, Small Business Administration. (B) Centers for Disease Control, Environmental Protection Agency, Housing and Urban Development, U.S. Army Corps of Engineers, Department of Defense.

Partners/Stakeholders: Bexar County, City of San Antonio, San Antonio Housing Authority, San Antonio Independent School District, United Way of San Antonio and Bexar County.

Year 1 activities:

Wheatley Choice Neighborhood: Phase 1 of 4 is 93% complete. When completed in late 2014, 208 new multifamily units will be built.

Year 2 activities:

Wheatley Choice Neighborhood: Phases 2, 3, and 4 will be completed in 2015 and will include an additional 400 units, including 80 elderly units.

Project 4: San Pedro Creek Restoration

Overview: The San Pedro Creek begins in San Pedro springs and runs through downtown San Antonio, the heart of the historic city center. The city center has also been subject to some of the city's worst flooding. During the 1960's and 70's, to ameliorate the health, safety, and economic impact of these flooding events, the US Army Corps of Engineers channelized a number of creeks. The channelization alleviated flooding but also reduced the community's traditional connection to the creeks.

In June 2012, Bexar County funded a preliminary engineering report (PER) to develop concepts for restoring the environmental conditions of San Pedro Creek through a two-mile segment of downtown, maintaining current flood control, and providing increased opportunities for people to enjoy this urban creek. The PER analyzed and assessed existing conditions, conducted technical and environmental surveys, developed concept designs and costs estimates for improvements which were estimated between \$131.5 million to \$175 million.

On February 18, 2014, Bexar County Commissioners Court entered into an agreement with the San Antonio River Authority to initiate the design phase. The design phase will build upon the results and concepts from the PER and will take approximately 24 months to complete. Extensive public involvement will be included, as well as close coordination with Bexar County and the City of San Antonio. Following the design phase, construction is anticipated to begin in 2016 and be completed in 2018 in celebration of the 300th anniversary of the establishment of the City of San Antonio.

Federal Partner Leads: Department of Justice, Environmental Protection Agency, General Service Administration, U.S. Army Corps of Engineers.

Partners/Stakeholders: Bexar County, City of San Antonio, San Antonio River Authority, San Antonio Water System, San Pedro Creek Subcommittee, Westside Creeks River Oversight Committee.

Year 1 Activities: Obtain Corps of Engineers permits for projects; seek General Services Administration funding through the FY 2016 budget process.

Year 2 Activities:

Project 5: Westside Creeks Ecosystem Restoration

Overview: The Westside Creeks Ecosystem Restoration is a community-based planning effort initiated in 2008 by the San Antonio River Authority. The mission of the project is to develop concepts for restoring the environmental condition of the Alazán, Apache, Martínez, and San Pedro Creeks, maintaining the current flood control components of these creeks, and providing increased opportunities for people to enjoy and interact with the urban creeks. The project will focus on restoring the creeks in such a way that keeps with and enhances the rich historical and cultural background of the community and incorporates key features into its design.

These creeks are located in close proximity to three San Antonio Housing Authority properties: Alazán-Apache Courts and Guadalupe Subdivision, Cassiano Homes, and Lincoln Heights

Courts. Once restoration is completed, these economically distressed communities will have access to the health, recreational, and economic benefits of local waterways.

In 2012, San Antonio voters approved a project which included funding for the Westside Creeks hike and bike trails. A conceptual plan that includes ideas for maintaining and enhancing flood control, ecosystem restoration, recreational improvements, and economic development opportunities was approved in June 2011. The City of San Antonio and the San Antonio River Authority are working together to design and construct a hike and bike system which will complement the larger creek ecosystem restoration project. Public meetings have been conducted to solicit input on the Westside Creek hike and bike project while the project is in the preliminary design phase.

In August 2011, the U.S. Army Corps of Engineers chose the Westside Creeks as one of five national pilot studies to test the new civil works planning paradigm to determine the feasibility of implementing ecosystem restoration and recreation along the creeks. The study focused on improving aquatic ecosystem function and habitat within the creeks. The Westside Creeks are located along the central flyway zone and serve as a stop-over point for several neo-tropical migratory birds. The Corps of Engineers is assessing whether improved aquatic habitat, restored native vegetation, and other creek enhancements would provide important stop-over habitat for seasonal bird migrations. A General Reevaluation Report and Director's Report was completed and signed on May 21, 2014.

Restoration of the Westside Creek Ecosystem would work in conjunction with these projects to benefit the neighborhood and housing property residents by providing spaces for physical activity, recreation, and increased transportation connections.

Federal Partner Leads: Centers for Disease Control, Environmental Protection Agency, Housing and Urban Development, U.S. Army Corps of Engineers.

Partners/Stakeholders: Bexar County, City of San Antonio, San Antonio River Authority, San Antonio Water System, Westside Creeks River Oversight Committee.

Year 1 Activities: Construction of locally funded hike and bike trails; prioritize funding for Westside Creeks' preliminary engineering design through the FY 2016 budget process.

Year 2 Activities: Initiate Westside Creeks' design phase.

Project 6: San Antonio Missions – World Heritage and Cultural Connections

Overview: Situated along a 12 mile stretch of the San Antonio River are five Spanish colonial mission complexes built in the early eighteenth century. The Missions are the most complete and most intact examples of Spain's efforts to colonize the northern frontier of New Spain. The missions' more than fifty standing structures, archeological resources, and landscape features, that include irrigation systems known as *acequias*, stand as proof of the interchange and blending of cultures that would give rise to the City of San Antonio. A multi-organization group that includes Bexar County, the National Park Service, the San Antonio Conservation Society, and the San Antonio River Authority, is working on a feasibility study to identify opportunities for connecting sites and routes associated with El Camino Real de los Tejas National Historic Trail to the San Antonio Mission national Historical Park. The effort will help provide a living resource with enhanced historic and recreation opportunities and increase the level of awareness of San Antonio's unique history and connection to the past. This partnership has also sought designation by the United Nations Educational, Scientific, and Cultural Organizations (UNESCO) as a World Heritage site since 2006. Designation would have a tremendous impact on the community, providing educational opportunities about the missions and *acequias*, increasing the area's visibility as an international tourist destination, and creating a substantial economic impact. An economic impact study conducted by the Harbinger Group in 2010-11 estimated that in 2016 the Missions National Historical Park could be contributing \$214.5 million in economic activity and support 2335 local jobs should local and federal initiatives be accomplished.

Federal Partner Leads: National Park Services, U.S. Army Corps of Engineers.

Partners/Stakeholders: Bexar County, City of San Antonio, Los Compadres, San Antonio River Authority, San Antonio South Chamber of Commerce

Year 1 Activities: Obtain UNESCO designation as World Heritage Site.

Year 2 Activities: