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In 2010, the San Antonio River Authority (SARA) staff was challenged with developing metrics that could be used to illustrate the health of the San Antonio River over a 10-year period. SARA’s engineers, scientists and field operations staff identified four key areas to measure, score and ultimately determine an overall value for the calendar year. The four areas identified are public safety, environmental protection, public access and operations.

The goal within public safety is to reduce the number of structures located within the Federal Emergency Management Agency (FEMA) 1% annual chance (100 year) floodplain. Using floodplain models, SARA engineers are able to evaluate capital projects to determine their potential benefits for reducing flooding. Also, as technology improves, staff is able to re-evaluate the flood models’ outputs.

Within environmental protection, SARA scientists are in the rivers and streams counting fish and fish species and observing the overall health of the fish habitat. Also, scientists are measuring the water’s bacteria levels to determine if the stream meets the State’s contact recreation standard. Other measures include restoring 25 miles of stream by 2020, incorporating natural channel design or stormwater best management practices in capital improvement projects and ensuring native plant coverage and diversity meet the established plant management guidelines for the San Antonio River’s Mission Reach.

Public access measurements include increasing park programming attendance every year at the parks SARA owns and operates. SARA is also working to designate paddling trails for each of its designated paddling sites found in Bexar, Wilson and Goliad Counties, and looks to expand this network as opportunities arise.

Lastly, operations is measured based upon cleaning all significant debris within the San Antonio River Mission Reach 14 days after a major rain event. Since 2010, SARA’s field operations staff has maintained this standard at 100 percent.

These four key areas—public safety, environmental protection, public access and operations—are scored annually and plotted on the River Health Index. The index has annual projections through 2020. For 2012, the projection was 2.76. SARA’s 2012 actual score was 4.42 and driven by greater than anticipated projections within public safety and environmental protection.

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**Employee Highlight**

**By Rudy Farias**

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**By Kim Garcia**

The San Antonio River Authority (SARA) is delighted to introduce Cindy Hernandez, Executive Assistant in the Executive Office Department.

Cindy was born in Michigan and lived there until 1999 when she moved to San Antonio. In Michigan, she worked for Migrant Education Department of the public school system for 13 years. When she moved to San Antonio, she worked a temporary job at Pioneer Flour Mill, which is right across the street from SARA. Cindy says she used to walk across the street to eat her lunch on the river behind the SARA offices and thought the building and location were so beautiful. She started checking with the front desk receptionist weekly to see if there were any positions open for hire. Cindy started working for SARA in June of 2000. She started out in the Planning and Development Department where she assisted the Executive Assistant. Within a few months of her hire, the Executive Assistant position became available and she was promoted. As Executive Assistant, Cindy supports the General Manager, Assistant General Manager and the SARA Board of Directors. She handles their travel arrangements and calendars, works with other government agencies and SARA’s partners, including other cities and counties.

In her time off, Cindy loves to go to Spurs games and the movies, read, spend time outside gardening or by the neighborhood pool and shop for shoes! She has a son, Alex, who is in college, a daughter, Andrea, who works for Southwest Business Corporation and four dogs that keep her very busy.

Cindy says, “It’s rewarding to know that so many people benefit from all that SARA does, and I am always proud to say I work for this government agency.” SARA’s General Manager, Suzanne Scott, commented, “Cindy’s pride for SARA is reflected in the relationships that she has built with our partner agencies and our internal staff.” Thank you Cindy for all you do!
Plans Taking Shape for Confluence Park

By Mindy Wallen, Development Manager, San Antonio River Foundation

Plans are underway for Confluence Park, an initiative of the San Antonio River Foundation, to transform a vacant lot at 310 West Mitchell Street into a learning center. The new facility will use art, aesthetics and creativity to teach children and adults about the environment, river dynamics and the importance of conserving our natural resources. Confluence Park will provide an extraordinary educational opportunity for this community, tourists and citizens from all over San Antonio.

Ball-Nogues Studio, based in Los Angeles, is crafting the design of Confluence Park. The highly creative firm merges the fields of architecture, art and industrial design to create stunning works that incorporate these features into a social space. Ball-Nogues Studio brings a unique aesthetic that will push the park into the sculptural realm.

Confluence Park represents a physical manifestation of the River Foundation’s support of the San Antonio River Authority (SARA). Currently, SARA educators bring the agency’s watershed curriculum into area classrooms or on fieldtrips along the river. Once facilities are completed by the River Foundation, SARA is committed to using Confluence Park to conduct its educational outreach by combining classroom and fieldtrip educational offerings into one location.

As an organization that encourages thoughtful environmental stewardship, the River Foundation’s plans for the park include a large-scale artistically enhanced pavilion structure. Efforts also feature a water catchment system that will span beyond the pavilion structure to incorporate the entire park area, which will be viewed as a teaching tool to inspire people to become more involved with the river and environmental stewardship and gain a greater understanding of Texas ecotypes and their relationships with one another. Water catchment systems, solar and wind power and composting toilets will all be used to provide a model for sustainable building. Students will be exposed to native plant species, concepts of urban foraging, community-based gardens, historical references to the acequias found at the Missions and much more. Kid-friendly interactive exploration stations will encourage children to learn important lessons through play as well as feature gateways to the hike and bike trails along the river and community gardens. Be on the lookout for more exciting things to come as Confluence Park nears the completion of conceptual design and plans are made available to the public!
SUSTAINING AND ENRICHING LIFE IN SOUTH TEXAS:
The Story of The San Antonio River
A Feature Length Documentary

Presented by the San Antonio River Authority • A Thompson Marketing & Ten-Eighty Production
Executive Producer for SARA • STEVEN SCHAUER • Executive Producer KEN ASHE
Directed and Photographed by ADAM STIELSTRA • Written By LEWIS FISHER with STEVEN SCHAUER
Original Score by LLOYD MAINES • Narrated by DON REECE • Sound Design by RICHARD VELIZ • Edited by MICHAEL BELTRAM

PLEASE VISIT WWW.SARA-TX.ORG FOR SPECIAL EVENT SCREENINGS AND OTHER VIEWING OPPORTUNITIES.
In 2006, the San Antonio River Authority (SARA) published the San Antonio River Basin Plan for Nature-Based Park Resources (Park Plan). This plan inventoried the current recreational amenities in Bexar, Wilson, Karnes and Goliad counties, summarized the recreational needs of the community based on the census data collected in 2000, identified new opportunities for recreation and outlined strategies to implement these opportunities. Since the development of the plan, many recreational opportunities have been initiated by SARA with the help of both public and private partners. These projects include Canoe Trail Goliad, SASPAMCO Paddling Trail, Branch Nature Park, Helton-San Antonio River Nature Park, the Museum Reach, the Mission Reach and the start of the Escondido Creek Parkway project.

Additionally, our communities have been changing rapidly since 2006. At that time, there was no Eagle Ford Shale boom, which has brought many jobs to South Texas. The main avenue for park implementation was through grant programs from the Texas Parks and Wildlife Department that were funded at more than $30 million as recently as 2008. In 2013, they were funded with less than $500,000 dollars to be distributed statewide.

In response to changes in the makeup of our communities, changes in conditions on the ground and the altered financial climate for park implementation, now is a great time to update the Park Plan to better reflect and serve the needs of the community.

As part of this update, SARA staff and consultants have hosted several public meetings and met with elected officials from all four counties to gather input from the different stakeholders that have an interest in recreation in the San Antonio River Watershed. Out of the dozens of projects and ideas that were suggested for the Park Plan update, there are a few themes that recurred in different locations throughout the basin:

- **Connections:** Linking communities to green spaces, connecting communities to each other through trails, expanding paddling trails to connect to other parks along waterways and connecting recreational spaces both to each other and neighborhoods and residential developments through trails.

- **Access:** Most communities have a good park that has been developed and is maintained through public and private efforts. These parks often times need to upgrade their restroom facilities to meet ADA standards. For many communities the struggle is connecting the community to the resources available. Some parks need better...

...to better reflect and serve the needs of the community.
lighting for evening use, others need parking lots, while others need pedestrian access to residential areas to keep children away from busy intersections.

• Implementation: Residents throughout the San Antonio River Watershed realize that recreation is a key component to increasing the quality of life and economic vitality of our communities. The question is how to bridge the gap between the amount of parks and green space we currently have and how much the citizens are requesting.

In the next few months, the Park Plan update will be completed and posted on SARA’s website at www.sara-tx.org. The lists of community wants and needs are extensive. Some of these items will be very large in scope, while others will be easier to accomplish. With the updated implementation strategies that reflect the realities of our changing political, social and economic climate, local communities will have another tool to address their communities’ needs. SARA will use this plan to work regionally with public and private partners to increase the health, happiness and economic well-being of our communities.
As someone who loves the outdoors and an active lifestyle, I’m encouraged by the increased opportunities for outdoor recreation in the San Antonio River Watershed. Whether you enjoy an evening stroll after dinner, you’re a paddler, a cyclist or a mom out taking her kids for a ride in the stroller, there’s something for everyone.

In the downstream communities, we’ve got great paddling areas, like the Goliad Paddling Trail and the SASPAMCO Paddling Trail. It’s also exciting to see the ball moving forward in the Escondido Creek Parkway project. But for downstream folks who might not be into paddling, but perhaps just want a beautiful, green environment to take the family on a picnic or play disc golf, or go for a hike, there are great places to visit like Branch Nature Park in Goliad and the Helton-San Antonio River Nature Park about 10 miles northwest of Floresville. In San Antonio, paddlers can enjoy more and more stretches of paddling trail opening up on the Mission Reach. Cyclists, runners and walkers are all enjoying the hike and bike trails on both the Mission Reach and Museum Reach.

I’m a big believer in creating more opportunities for kids and families to get outside, to get re-connected with nature and un-plugged from the television, phones, computers and Facebook. It’s good for us!

That’s why SARA is going through the process of updating its Nature-Based Parks Plan. We want to hear from communities about what kinds of increased recreational opportunities they want to see in their areas. Stay tuned, as SARA will post its findings later this year. We’ll be working hard to bring our constituents even more opportunities for nature-based recreation.

Nature-Based Park Plan Update

By Terry Baiamonte, SARA Board Member, Goliad County

SARA Encouraging Low Impact Development

By Rosanne Hughes

The San Antonio River Authority (SARA) and the Texas Land/Water Sustainability Forum are holding San Antonio’s first-ever Low Impact Development (LID) Design Competition.

Teams of architects, engineers and landscape architects are preparing designs for three San Antonio-area properties: Hemisfair (urban redevelopment); Evers Road in Leon Valley (green roadway); and Port San Antonio (multi-family, mixed-use).

The teams have several months to create their designs. Later, two judging panels (one technical, worth 80 percent and one high-profile, worth 20 percent) will pick the three winning teams and announce the winners at an awards banquet at the Pearl Stables in San Antonio in on July 10.

But what is “low impact development” and why is it so important?

According to Ellen Gilinsky, a senior policy analyst on water issues for the Environmental Protection Agency (EPA) in Washington, D.C., low impact development (LID) and green infrastructure (GI) are especially important in drought- and flash flood-prone areas.

“It’s one of the best ways we know that you can control your stormwater runoff, because it mimics pre-development and pre-construction conditions,” said Gilinsky. “Instead of wasting water, you’re using it to water your landscaping. In arid locations like San Antonio, you can’t afford to waste water.”

SARA recently hosted Gilinsky and Bill Honker, an EPA official from Dallas, on a tour of a natural channel design project that incorporated LID and GI features on the Judson High School campus that was built by SARA and Baker Construction Services. The next stop was the campus of Madison High School’s Agri-Science Magnet Program, where school officials showed Gilinsky LID techniques including a green roof, permeable pavement and bio swales.

Gilinsky said of the tour, “I love that they were at schools. We want the next generation to think of these low impact development techniques as standard operating procedures, in the same way that past generations thought that using concrete and pipes was the standard way to do things.”
One of the major components of the Mission Reach project is increasing recreational opportunities on the San Antonio River. As the Mission Reach becomes an even more popular spot for events such as races, hiking, biking and paddling, more people are enjoying the amenities that are offered along the river.

In addition to the 89 benches and 137 picnic tables along the more than 15 miles of trails on the Mission Reach, five pavilions are available for public use. These pavilions are spread out along the Mission Reach and will offer the opportunity to congregate and celebrate special occasions on the river.

Procedures and guidelines for public use of these pavilions are currently being drafted and will be in place by Labor Day, along with a fee structure. A deposit fee will also be required when placing a reservation to cover any costs of improper use and guideline violations.

The pavilions along the Mission Reach will be reservable seven days a week during regular park hours (dawn to dusk) except on Easter, when they will be available on a first-come, first-served basis. The San Antonio River Authority (SARA) will be available to respond to public questions and concerns. For more information about these pavilions and how to reserve them, visit www.sara-tx.org. You can also follow SARA on Facebook and Twitter to receive related information and updates.

Pavilion locations:
- Between Theo Avenue and Mission Road
- Mission Road Street Connection
- Roosevelt Street Connection
- Padre Park
- Acequia Park
The Eagle Ford Shale oil and gas exploration activities continue to increase in the San Antonio River Watershed. Oil production alone has increased from five million barrels per year in 2010 to more than 70 million barrels per year in 2012. The San Antonio River Authority (SARA) has been developing a holistic watershed masterplan and an ordinance handbook and hosting workshops throughout our watershed to encourage best practices and implementation of sustainable development of the production sites as well as in the communities.

We want to ensure that we address issues that impact our watershed, from water quality to floodplain management, storm water, groundwater, land use, pipeline crossings and disposal wells. SARA is looking at all these issues holistically and strategically, in order to reap the economic benefits that shale drilling can bring to a community without detrimentally affecting the San Antonio River Watershed. The Best Practices Handbook to Assist Communities in the Eagle Ford Shale is a handbook designed to bring together best practices of communities that have previously experienced oil and gas exploration into one handbook. This will help Eagle Ford Shale communities experiencing similar issues to draw on these best practices and strategies. SARA supports the continued economic growth brought by the Eagle Ford Shale, yet we recognize that sustainable practices can balance cost without compromising the health of the rivers and creeks within the San Antonio River Watershed. The Best Practices Handbook to Assist Communities in the Eagle Ford Shale focuses on practices that preserve and enhance water quality; land use practices that preserve natural watershed functions to manage the quantity and quality of stormwater runoff; road infrastructure; and floodplain land use and development issues that frequently accompany rapid growth associated with successful oil and gas exploration. We want the handbook to be a useful guide to communities in the Eagle Ford Shale as they seek to balance the economic benefits the Eagle Ford Shale has brought them with the quality of life they have come to enjoy living in rural South Texas.

SARA is currently working on the development of a second edition of the Best Practices Handbook to Assist Communities in the Eagle Ford Shale. Given the rapid changes brought about by the continuing growth of the Eagle Ford Shale play, SARA initiated a collaborative review process with the South Texas Energy & Economic Roundtable (STEER), the Texas Railroad Commission, Texas Commission on Environmental Quality, Texas Department of Transportation, other state regulatory agencies and local community leaders to ensure the handbook remains comprehensive and responsive to the needs of the communities served by SARA. The updated handbook will be available for download from our website, www.sara-tx.org, by April 2013.
While canoeing down the San Antonio River, you might come upon a distinctive-looking turtle sitting on a rock or log. The red-eared slider (Trachemys scripta elegans) is a native Texas turtle that cannot be confused with anything else. The distinctive red stripes that can be found along both sides of its head separate this species of turtle from any other. While these red stripes are not actually ears, red-eared sliders can hear using something called an “inner ear.” Along with their distinctive red “ears” these turtles have yellow stripes on their green legs. Their shells are dark green and are often covered with algae on older turtles. The shells can get up to 13 inches long on females and 11 inches on males. This relatively large, omnivorous turtle grows quickly on a diet of meat and vegetation. These turtles can meet all their diet and habitat needs in most healthy mud-bottomed, slow-moving water bodies from Indiana to the Gulf of Mexico. Red-eared sliders used to make popular pets due to their distinctive looks and relative abundance. It is illegal to capture a red-eared slider and keep it as a pet due to its proclivity to carry diseases such as salmonella. It might be a challenge to catch one anyway because these turtles are so quick to slide into the water if frightened. The Mission Reach of the San Antonio River offers plenty of views of this unique-looking turtle, so come and check them out! ★
The San Antonio River Authority (SARA) is working with legislators to identify funding to assist in implementing environmental flow studies and strategies identified in the Senate Bill 3 (SB 3) Work Plans for Adaptive Management. When the SB 3 environmental flows legislation was enacted in 2007, the legislature realized that this process would be dynamic and require an adaptive management approach to consider new science and respond to changing environments. Once basin and bay stakeholder groups (stakeholder groups) submitted the required Environmental Flows Recommendation Report to the Texas Commission on Environmental Quality (TCEQ), the process required stakeholder groups to submit a work plan to the Science Advisory Committee and the Environmental Flows Advisory Committee. The work plans identify and prioritize scientific studies and other activities needed to fill data gaps and improve the reliability of environmental flows standards in the future.

The scientific studies in the work plans are designed to advance the state’s data and information on flows in the state’s rivers, bays and estuaries and are inextricably linked to the future sustainability of our state’s water resources. The information will feed into the State’s Regional Water Planning process and supports the continued viability of our economy and natural resources. Recognizing the importance of getting the work plan strategies and studies underway, I reached out to the other chairmen of the stakeholder groups and asked them to join me in sending letters to members of the State Legislature requesting funding of the work plans as part of the ongoing efforts to fund other water projects throughout the state.

In the Guadalupe – San Antonio River and Bay System the need to advance the environmental flows science and fill known data gaps is extremely important in light of the current endangered whooping crane litigation. SARA was disappointed in Judge Jack’s recent ruling citing that actions of TCEQ caused a taking of the whooping crane in 2008-09 in violation of the Endangered Species Act. We believe the Judge did not give due consideration to the expert science testimony presented by the State, GBRA and SARA. The evidence did not support that a taking occurred and clearly showed that the ecosystem supporting the whooping crane habitat is influenced by several highly complex, interrelated, naturally occurring factors involving more than just fresh water inflows. For these reasons, SARA strongly advocates for funding during this legislative session to implement the Guadalupe/San Antonio Basin and Bay Area Stakeholder Group’s Environmental Flows Work Plan. Advancing the body of science in the basin’s rivers and the bay and estuary system can only improve future decision making related to the management and use of these important State natural resources for the benefit of people, economies and the environment. ★