

BROWNSVILLE PUB UNDERTAKING RESACA RESTORATION

The Brownsville Public Utilities Board (BPUB) is engaging in an ambitious long-term project that goes hand in hand with many of the green initiatives that the city of Brownsville has endorsed in recent years. The Resaca Restoration Project also will help further prepare the city for times of drought by providing additional water storage capacity.

One of the things that distinguish Brownsville from many other cities is the network of resacas that meander through the city. Resacas are oxbow lakes or remnant river channels of the Rio Grande. Cut off from the river over time, these waterways have no inlet or outlet but serve important functions. The resacas can serve as a transport and storage system for water and also provide a place for floodwaters to drain.

The benefits of resacas extend beyond just the practical. The resacas add to the aesthetic beauty of Brownsville. The winding waterways and the plants that develop around them provide an appearance that few cities can match. The resacas also are an important ecological habitat for various wildlife species. This water is home to an array of species of fish, such as tilapia, alligator gar and largemouth bass, as well as hundreds of species of birds and waterfowl.

While everything might look picturesque on the surface, problems with the resacas can be seen just below the water. Over the years, sediment carried by storm water runoff from adjacent urban and rural watersheds has been deposited in the resacas, reducing their depths, storage capacity and natural circulation.



Trash and other debris have further clogged these waterways. Some resacas have many feet of sediment and debris impeding the water flow. As a result, residents and local biologists are learning that degraded water quality has impacted aquatic life in the resacas. Some resacas may only have as much as a foot of water flowing through them.

That is why BPUB is moving forward with its Resaca Restoration Project. The undertaking uses specialized machinery to dredge the bottom of the resacas to remove all the unwanted material and separate the water from the silt and sand so that the water can then be cleanly released back into the resaca.

“Dredging is the only way to return these resacas to their original depths,” says BPUB General Manager & CEO John Bruciak.

The dredging process starts with the dredger in the water. The specialized boat has cutters attached to the

bottom that helps break up debris or cut vegetation. The dredger then sucks up the material much like a vacuum, sending it through pipes until it winds up at the dewatering system.

The dewatering system separates large trash and debris as well as sand from the water. Specially designed sediment removal equipment is being used to separate the dredged sediment particles from the slurry in order to produce dry sediment material and a clear, clean effluent that can be discharged back into the resacas. This is being accomplished with a very limited land footprint with minimum environmental and noise disturbance.

“This long-term project is a big undertaking for the Brownsville Public Utilities Board, but we are excited to be taking the lead on something that will bring so much benefit to the city of Brownsville,” says Bruciak.

The dredging process is just the first step of the overall project. Once the debris removal is complete, the next step will be erosion control/stabilization. This will largely consist of re-vegetation, which will help lessen the effects of runoff. The next steps will be beautification and habitat restoration, which will create potential for public amenities and parks.

City officials already have their eyes on pushing these restored resaca sites as recreational hotspots. South Texas is a major draw for birders and eco-tourism. Because of its location, there is a great variety of birds that can be spotted. There are some bird species that can only be found in South Texas, but the area also gets many different types of birds passing through the area because of migrating patterns. The Resaca Restoration Project will enhance the habitats for birds and other wildlife species.

“Once the resaca restoration is complete, there will be great economic potential for their use. I envision our resacas being a draw for tourists and residents alike,” says Brownsville Mayor Tony Martinez.

The resacas, which have been an alternative water source for BPUB, could become even more important after the restoration is complete. There will be a great increase in raw water storage capacity because more surface water could be caught. That means that BPUB would be able to store more water in the resacas to be used in times of need, and with drought conditions persisting in South Texas, that time of need could be coming sooner rather than later.

The Resaca Restoration Project is just one more action taken by BPUB to help build up the city’s water infrastructure. The Southmost Regional Water Authority (SRWA), in which BPUB is a major partner, continues to increase its water production. SRWA treats “brackish” or



Lending their support for the Resaca Restoration Project are, from left, BPUB Board Member Arturo R. Farías, Vice Chairman Oscar D. García, Member Emmanuel Vásquez, Secretary/Treasurer Noemi García, Board Chairman Enrique G. Nájera, Brownsville Mayor Antonio “Tony” Martínez, Brownsville Commissioner At-Large “B” Dr. Rose M.Z. Gowen and Brownsville Commissioner At-Large “A” Estela Chavez-Vasquez.



unnecessary debris is removed from the bottom of each resaca. Dredging the Cemetery Resaca is estimated to take about two to three months, but this estimation largely depends on how much debris is found and if any large trash is uncovered.

Items too large to be sucked into the pipes will need to be removed in other ways. Each time something large is found, the dredging process needs to be halted, and a crew has to manually remove the obstruction before continuing. There have been several large items uncovered, like tires, furniture and carpets, to go along with smaller trash that includes bottles, plastic bags, cans, paper and various other items.

BPUB and the city of Brownsville will be working on the Resaca Restoration Project for years to come. Additionally, ongoing maintenance will be required after the restoration is complete.

“The preservation of our resacas will be enjoyed by our residents and visitors alike for generations to come. It will be our responsibility as citizens to make certain that our resaca system continues to flourish,” says BPUB Chairman Enrique Nájera.

SOURCE: The Brownsville Public Utilities Board is a full-service, locally owned and operated utility providing electric, water and wastewater services. It has over 525 dedicated and responsive employees who provide reliable utility services to the city of Brownsville and the surrounding area.

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salty groundwater to make it usable for residents as drinking water. This lessens the city’s need for water from the Rio Grande and the city’s reservoirs.

The strong water infrastructure that BPUB is building will help bring additional businesses to the area.

“The rest of Texas is experiencing drought issues, but this project will enable us to secure our water future and attract more industry to our area,” says BPUB Vice Chairman Oscar D. García.

The restoration project will also help restore communication and management of the resaca system. BPUB will be able to easily increase or decrease the depth of water in the resacas once the restoration is

complete. The important consequence of that would be an increase in storm water capacity. During times of heavy rain, water depth could be lowered, and the resacas would provide somewhere for storm water to be stored. This would mitigate the effects of storms and reduce flooding in the city.

The Cemetery Resaca is the first resaca to be dredged, but several others are already planned. The project will be done in phases. The Group I sites include Cemetery Resaca, the Gladys Porter Zoo resacas and canals, Resaca Boulevard Resaca and the Dean Porter Park Resaca. Phase II sites will be announced.

It is difficult to say how long this project will take. Progress is relatively slow and deliberate to ensure all

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