



Photo by Alan Plummer, Associates, Inc.

BIRDSEYE VIEW of the East Fork Wetland Project.





Article by LORIE WOODWARD CANTU

JOHN BUNKER SANDS

WETLAND CENTER

JOHN BUNKER SANDS was a visionary conservationist. Before his untimely death, he managed his family's land throughout North Texas under the banner of Rosewood Ranches. His passion was creating and restoring wetlands.

"My father, John Bunker Sands, was a proponent of holistic resource management," Jacob Sands, president of the John Bunker Sands Wetland Center board of directors, said. "He was constantly looking at the big picture, searching for management solutions that benefited our ranching operation, the wildlife, the environment and society as a whole."

Today, the John Bunker Sands Wetland Center stands as a testament to his stewardship ethos and vision. The Center, which is designed as an outpost for education and research, has become a model for public-private partnerships and common sense conservation.

John DeFillipo, director of the Center, said, "The Center and the surrounding wetlands represent stewardship unlike any I've ever seen. It's definitely a public-private partnership, but with a well-rounded approach to the land."

This Center is located, in Seagoville Texas, on a working cattle ranch that is home to 1,840 acres of man-made wetlands. The wetlands not only provide unmatched wildlife and waterfowl habitat, but the wetlands naturally

cleanse water from the East Fork of the Trinity River, providing additional potable water to a region that's population is quickly outgrowing the local water supply.

WATER AND WETLANDS

In the early 1980s, John Bunker Sands began restoring and creating man-made wetlands. By the early '90s, he was envisioning these wetlands as the basis for a mitigation bank, long before the term became part of society's vernacular. To that end, he enlisted the assistance of scientists and engineers from Alan Plummer Associates, Inc. The original plan was shelved for 10 years, he said.



JOHN BUNKER SANDS Wetland Center at dusk.

© Good Fulton & Farrell Architects





© Kneefe Photography

BLACK-NECKED stilt among grassy arrowhead.

The NTMWD's search took them to Alan Plummer, who led them to Rosewood Ranches and the extended Hunt family, he said. The NTMWD and the family struck a long-term ground easement agreement for the Seagoville Ranch and the development of the wetland project. Unfortunately, by this time, John Bunker Sands had lost his battle with cancer.

"This is where the story of the Center and the wetlands begins," DeFillipo said. "It's not about honoring the memory of one man, but about celebrating the vision of one man and how that vision changed his corner of the world."



© Kneefe Photography

Great Blue Heron

The project that has changed this corner of North Texas is called the East Fork Raw Water Supply Project, otherwise known as the East Fork Wetland Project. The project is designed to divert water from the East Fork of the Trinity River, including treated wastewater and natural flows that was previously unused and naturally filters it using the wetlands.

As the river water passes through the 1,840 acre wetland, aquatic plants "polish" it, removing about 95 percent of the sediment, 80 percent of the nitrogen and 65 percent of the phosphorous. The cleansed water is then pumped 43 miles to Lake Lavon where it is mixed with NTMWD's other raw water sources that include Lake Lavon, Jim Chapman Lake and Lake Texoma.

Like most water matters, there is a complicated formula governing how much water passes through the wetlands at any given time. Under the current conditions, though, DeFillipo says that the East Fork Reuse Project is contributing an additional 45 million – 50 million gallons of water per day to the region's supply. Peak capacity is 127 million gallons per day, he said.

The NTMWD spent \$246 million in the East Fork Wetland Project; however, the organization considers it an investment against a potential water shortage and its related economic impacts. The 2001 Region C Water Plan predicted that by 2020 inadequate water supplies would lead to a 36 percent reduction in population; a 41 percent reduction in employment; and a 36 percent reduction in income for the 16 counties that make up Region C.

The additional water has already made a difference. For the past two years, pumping from Lake Texoma has been curtailed in an attempt to stop the spread of zebra mussels, DeFillipo said. The East Fork Wetland Project has been able to replace that water that once came from Lake Texoma.

The project has also protected the regional landscape.

Jacob Sands said, "This wetland replaces building a reservoir the size of Lake Lavon. While reservoirs will continue to be an integral part of the water system, the NTMWD has shown that wetlands can provide an alternative for water managers and municipalities considering long-term solutions."

As an endnote, John Bunker Sands' vision for a wetlands mitigation bank is coming to fruition. A 1,200-acre wetland is

"John Bunker Sands was a man who was thinking and working ahead of his time," DeFillipo said.

Then the North Texas Municipal Water District (NTMWD) began exploring ways to increase the water supplies available for its 1.6 million customers in Collin, Dallas, Denton, Hunt, Kaufman and Rockwall counties. The NTMWD customer base is expected to more than double by 2020, outstripping the region's developed water supply.



being constructed across the Trinity River from the center, and soon interested parties will be able to buy mitigation credits.

EDUCATION

The Center, which is a 50:50 partnership between the Hunt family and the NTWMD, opened in October 2010. It has been full of eager learners since then. Nestled in the middle of the ranch, the 5,400 square-foot facility overlooks the lower 800 acres of wetlands. As school buses discharge their passengers, the students, ranging from fifth graders to high school seniors, are immediately surrounded by nature.

From the Center's back porch and expansive board walks, it's possible to see an amazing array of wildlife, birds and waterfowl. River otters have moved in, as have peregrine falcons, Bald eagles, wading birds, and myriads of ducks. Turtles stroll up and down the board walk. For a while, concrete, asphalt and manicured lawns are just a memory.

"We're all about introducing children to nature through experience," DeFillipo said. "Here, they see food webs not on posters, but right out the back door." This experiential approach has created a natural partnership between the Texas Wildlife Association (TWA) and the center. TWA's Tamara Trail, who has been instrumental in the development of the TWA L.A.N.D.S. education program, serves on the center's advisory board.

Local schools have embraced the opportunity to get out in nature. In early June, despite the fact that regular school was out, Crandall Middle School brought its students who had failed to pass the science portion of the TAKS test. On that day, these students were going to explore wetland ecology, water quality, soil science and study macro invertebrates. In addition to collecting samples, they would conduct lab tests in the state-of-the-art facility.

"It's one thing to read or to hear about something, it's another thing to get your hands on it and understand it," DeFillipo said.

The information doesn't have to be complicated to be effective, he said. For instance, when the children collect macro invertebrates, DeFillipo points out that millions of these creatures live in the wetlands. He notes that these animals are sensitive to pollution, so the fact that the children are finding them indicates the water is clean, because the macro invertebrates can't live in dirty water.

The staff tries to get the students to understand cause and effect and to recognize the connection between what happens on this land and the water that comes from their tap.

"We want to introduce kids to nature and get them to thinking about relationships," DeFillipo said. "We don't want their experience to begin and end at the Center. When they leave here, we want them to understand that everyone can be like John Bunker Sands, in the sense that they, too, can make a difference for the natural world. Our goal is

to inspire them to think outside the proverbial box and challenge them to look at the future and come up with our next solution."

OUTREACH

The Center's doors are open to anyone who wants to learn about nature. Of course, in today's world, not everyone realizes that they need nature, so the center hosts a variety of non-traditional outreach events including a Mudbug Festival with a 5k fun run and an Earth Day celebration. It also opens its facilities to different organizations for meetings.

"The first step in teaching people about water, water conservation and nature is getting them here," DeFillipo said. "We create fun events that allow us to showcase our work and our message. It's amazing how many people come back." The current corps of visitors and volunteers comes from the surrounding communities.

"These visitors watched the wetlands being built. They can see them from their homes," DeFillipo said. "They've become engaged



Photo courtesy of John Bunker Sands Wetland Center

DELTA ARROWHEAD emerging from the wetland.



Photo by Curtis Callaway

BULLFROG HIDING in bushy pondweed.



with our mission. It's been like throwing rocks in a pond and watching the ripples of information spread."

The staff encourages a mix of organizations and individuals to use the facility. Groups range from school children to Audubon Society chapters to Delta Waterfowl. It creates an opportunity for education.

"Sometimes we'll have a group that includes people who are hunters and people who definitely are not," DeFillipo said. "I look at those differences as an opportunity to teach. Hunting is part of our reality here. When I explain that it's a necessary tool that is crucial to keeping our wildlife and our land healthy, it gives people an opportunity to reassess their thinking."

Hunting has been and continues to be part of the ranch's landscape.

Jacob Sands said, "Like many conservationists, my dad came to love the land and its creatures through hunting. As a child, I spent many wonderful days with him exploring wetlands, many times with a shotgun in hand and always with a wet Labrador by our side. I know first-hand that hunting is a great introduction to the outdoors."

Because the family is concerned with developing the next generation of land

stewards, Rosewood Ranches partners with the Texas Youth Hunting Program and Delta Waterfowl to host an annual youth hunt.

"Many of the kids who participate in the waterfowl hunt haven't had the opportunity to spend very much time in the outdoors, and the positive feedback we get from them is overwhelming," Jacob Sands said. "Every good outdoor experience can make a difference in a child's life."

RESEARCH

Now that the education program is up and running, the staff has turned its attention to research. Currently, they are meeting with scientists from Baylor University, University of Texas-Dallas, Stephen F. Austin University, as well as Delta Waterfowl, to consider research proposals focusing on man-made wetlands. And this is just the first wave.

The research will be fully integrated into the Center's education and outreach programs.

"We'll not be conducting research for research's sake," DeFillipo said. "We'll be conducting research so we can share knowledge and help others replicate what we're doing here."

The Center is already drawing interested visitors from across the nation. Most

recently, a contingent of legislators and environmental regulators came from Oklahoma to learn how they might address the water challenges facing their state in a similar manner.

Once the research program is up and running, DeFillipo envisions an opportunity for school children to be involved, either by collecting data on behalf of the scientists or conducting complementary research that helps the scientists move forward.

"We're interested in the real world here," DeFillipo said. "As Patrick Sands once observed, 'This Center is about man helping nature help man.' Instead of fighting nature, we're learning what nature does well and then working to replicate it."

He continued, "John Bunker Sands wasn't just a land steward, he was a bio steward – a steward of life. He considered our challenges, examined the environment, and championed life in a way that benefits nature and mankind. Our charge is to keep his legacy alive by empowering new bio stewards who will make a difference in their generation and beyond." 🌱

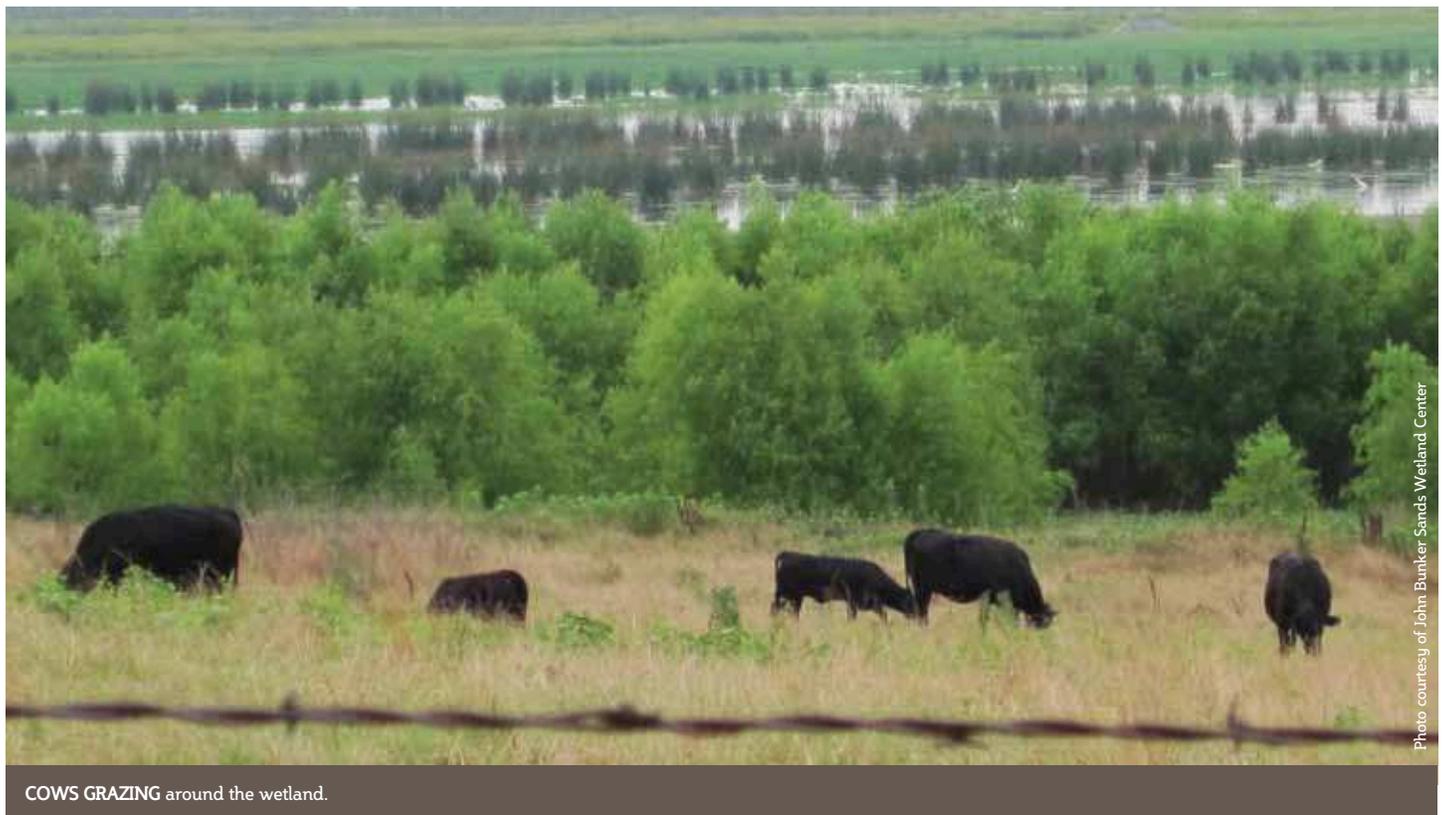


Photo courtesy of John Bunker Sands Wetland Center

COWS GRAZING around the wetland.

