

2016

TEXAS ENVIRONMENTAL EXCELLENCE AWARDS

Recognizing Outstanding Achievements throughout the State



In Fort Worth, lasers and HD cameras inspect the sewer system. In rural Booker, high-school kids run a recycling center. In Round Rock, a computer manufacturer uses bamboo and wheat straw. In Wichita County, farmers are choosing not to till their fields. What's going on? Well, these are just a few of the Texas Environmental Excellence Award winners for 2016.

For 24 years, the Texas Commission on Environmental Quality, with the help of the governor's blue-ribbon panel of experts, has been recognizing businesses, individuals, government entities, and educational institutions for their work toward protecting and improving the Texas environment.

This year, there were nine winners, in eight categories, as follows:

- Civic/Community (two winners): The City of San Marcos and Texas State University; Texas A&M AgriLife Research
- Youth: Kiowa Recycling Center
- Education: San Antonio Water System
- Agriculture: Brockriede Brothers and Lalk Brothers Farms
- Innovative Operations/Management: Fort Worth Water Department
- Pollution Prevention: Dell Inc.

- Water Conservation: The University of North Texas Science Education Research Lab
- Individual: Trevor Hance

Civic/Community Texas A&M AgriLife Research



Texas A&M AgriLife Research has been restoring a large area of salt-marsh wetlands from Magnolia Beach to Indianola, on the Gulf of Mexico (between Galveston and Corpus Christi). The water in that area had lost much of its natural salinity, causing a decline in the populations of fish and other wildlife. In response, the researchers brought together a coalition of citizens, landowners, governmental entities, nonprofit groups, schools, and engineering firms to remove a number of barriers that have blocked tidal flow, causing water quality to suffer.

Removing the barriers is increasing tidal flow, which in turn is restoring salinity to natural levels. Fish are now repopulating the area, and native birds are returning as well. To date, the coalition has restored 770 acres of habitat and 112 feet of shoreline, and reconnected

more than five miles of tidal channels.

The City of San Marcos and Texas State University



The clear, spring-fed water of the San Marcos River is home to a delicate ecosystem, including several threatened species. In recent years, unfortunately, non-native vegetation has been creeping into the river, choking out native growth and inhibiting water flow.

The City of San Marcos and Texas State University are helping students and other members of the community work together to replace the intruding plants with native species. As a result of this work, researchers have observed that native vegetation has increased by 37 percent, and that soil erosion on the riverbank has decreased by half.

Youth Kiowa Recycling Center



In 2009, six high-school students in the small town of Booker, at the northern edge of the Panhandle, took it

upon themselves to establish a recycling facility in their community. They secured grants and assistance from various organizations and the following year, the Kiowa Recycling Center was up and running.

The initiative of those students generated an ongoing cooperative effort. Now, each class of environmental-science students expands and improves on the work of its predecessors. What began as a collection center for paper, cardboard, metal, and some plastics has expanded to accept tires, books, and electronics.

The students, including the 2016 senior class, continue the operations. They write business plans, secure funding, make presentations to community leaders, and obtain the materials necessary to keep the project going.

The vision of the original environmental-science class and the hard work of each student since then have diverted more than 1 million pounds of material from the waste stream, and will continue to benefit the community for years to come.

Education San Antonio Water System

You may not usually think of a municipal water system as the driving force behind environmental education. After all, its job is to supply clean water to citizens. But the San Antonio Water System recognizes the need for tomorrow's leaders to learn about science along with civic responsibility, and uses water as a catalyst. The water system implemented IMPACT, an extracurricular youth education program that helps kids develop environmentally conscious thinking.

The program runs throughout the school year, kicking off each fall with a summit that features speakers and training to help students brainstorm issues and develop ideas for water-related projects. The students then form teams to design



and implement those projects during the course of the year.

Students use 3-D printers and other new technologies to develop prototypes of new-to-market products that they conceptualize and design. Teams may also work with local college instructors in advanced water treatment to complete a college-level water-quality project.

IMPACT isn't just about water. It's also about cultivating confidence in students to apply their newfound water-related knowledge to endeavors benefitting the entire world.

Agriculture Brockriede Brothers and Lalk Brothers Farms

As every North Texas rancher knows, panhandle winds carry away precious soil and moisture, and tilling the ground makes it easier for the dirt to blow away and the moisture to evaporate. So in 1999, two family farms, Brockriede Brothers (Bill, Carl, and James) and Lalk Brothers (Jimmy, Rex, and William), recognized the need to confront this problem, and decided to try no-till farming.

No-till farming is pretty much what it sounds like. Instead of using a tiller to turn up the dirt and prepare it for planting, the farmers use specialized equipment that injects seeds into the ground without disturbing the surrounding soil.

And it works! Nearly 17 years later, the two Wichita County farms cultivate roughly 15,000 acres of no-till land. And neighboring farmers are following suit, transitioning to the new method: an additional 13,000 acres are now under no-till production in the county.

The two families have become area leaders in the technique. They generously share information with their peers. In fact, the Brockriede and Lalk farms host research projects and real-life



demonstrations of no-till farming. The farms also serve as educational sites for schoolchildren, college students, and conservation groups studying strategies and methods for water and soil conservation.

Innovative Operations/ Management Fort Worth Water Department



The City of Fort Worth had a sewer problem. No, sewage wasn't spilling into waterways or aquifers. But the city did need a way to check on its aging, 262-mile network of sewer lines. After years of relying on maintenance records and inspections to check on the network, city officials realized that they simply had no reliable way to closely examine their vast network of large-diameter sewer pipes, particularly the transitional sections known as "interceptors."

That's where the Interceptor Condition Assessment Program comes in. ICAP involves sophisticated sonar and 3D laser technology, as well as sending high-definition cameras down into the sewer to transmit images back. This allows water-department personnel to detect problems long before collapses happen, thereby preventing damage to both the environment and the city's budget.

In fact, since the city implemented the program in 2010, they have seen a 59 percent reduction in sewer overflows. Because the program allows technicians to prioritize repairs to the sections that need it most, the city estimates that over the next ten years, the over-all savings in maintenance costs will be more than \$15 million.

Pollution Prevention Dell Inc.

Most people know of Dell Inc.—headquartered in Round Rock, north



of Austin—as one of the world’s largest computer manufacturers. But not everyone knows the company as a recycling trend-setter. A few years back, they began recycling plastics from used computers by turning them into resin, which could then be used in the manufacture of new computers.

And now they’re doing something similar with carbon fiber. The material had not had a viable market for reuse until Dell began using excess carbon fiber and scrap raw materials in new products. The plan is projected to divert about 495 tons of waste from disposal this year alone.

Waste from packaging is also a huge concern. So, the company is pioneering the use of rapidly renewable bamboo and mushrooms as replacements for foam used in trays and cushions. The cartons themselves are now made from wheat straw instead of corrugated cardboard, using 40 percent less energy and 90 percent less water to manufacture. The use of straw also keeps the air cleaner: when farmers sell their wheat straw instead of burning it, less pollution goes into the air.

Since 2009, Dell has avoided over 15,500 tons of packaging waste and saved \$53 million. Using a variety of strategies, the company has become a model for other manufacturers to follow.

Water Conservation The University of North Texas Science Education Research Lab



The success of environmental education can sometimes be difficult to measure. The University of North Texas Science Education Research Lab, however, measures educational results by the gallon.

The Environmental Education Initiative program, developed by the City of Dallas and SERL, helps people of all ages understand where water comes from, how we use it, and where it goes. SERL uses four educational components: elementary, hands-on lessons taught by certified teachers; middle-school “Museum on Wheels” modules; conservation and community-outreach programs aimed at high schoolers; and a professional-development program for teachers.

What makes EEI unique is its commitment to measurable results. Quantitative follow-up research helps track the program’s success. For example, according to water-use data, areas where the elementary-school programs were implemented reduced their water use by more than 500 gallons per month in single-family homes. This adds up to more than 6,000 gallons per year for each home and a total savings of more than 22 million gallons of water per year for the entire target area.

This innovative relationship between the city and the university is a valuable resource that will make water conservation a way of life for generations to come.

Individual Trevor Hance

Trevor Hance is one of those teachers. You know the kind: hearing about the ways he instills students with a love of learning makes you wish you could go back to the 5th grade just to take his class. Saying that this Round Rock teacher “makes learning fun” is an understatement.



Hance, a 5th-grade teacher at Laurel Mountain Elementary, runs

the Legacy Project, which takes learning outdoors, making it more hands-on and compelling, while still meeting state educational standards. For example, instead of having students calculate the volumes of objects on a worksheet, he gives them problems like, “How many bags of soil do we need to cover this barren part of our nature preserve and help our native plant seedlings grow?” The students actively participate, brainstorm ideas, take measurements, calculate a value, and then implement.

The project also involves developing students’ math and science skills by refurbishing old bicycles, which are then donated to the community. From this project, students learn about reducing air emissions. And, by giving bicycles a second life, they actively reduce waste, and directly help the environment.

Through the Legacy Project and Hance’s teaching philosophy, students learn to preserve resources as they become mentors and inspiration for fellow students, their families, and their community. 🌱

Winners received their awards at the Texas Environmental Excellence Awards Banquet, which was held on the final evening of the TCEQ’s Environmental Trade Fair and Conference, on May 4. Whether it’s developing new farming techniques, inspiring young minds with the importance of environmental stewardship, or even harnessing technology that safeguards a sewer system, each winner is using innovative techniques to help preserve the valuable Texas environment. 🌱



View videos of the award winners and the governor’s congratulations speech at [youtube.com/user/TCEQNews/videos](https://www.youtube.com/user/TCEQNews/videos).



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