

TO: Board Members

THROUGH: Kevin Patteson, Executive Administrator
Robert E. Mace, Ph.D., P.G., Deputy Executive Administrator
Water Science and Conservation
Les Trobman, General Counsel

FROM: Mindy Conyers, Ph.D., Conservation and Innovative Water Technologies

DATE: March 10, 2016

SUBJECT: 2015 Texas Rain Catcher Awards

ACTION REQUESTED

Presentation of the 2015 Texas Rain Catcher Awards

BACKGROUND

On July 16, 2007, the Texas Water Development Board (TWDB) authorized the Executive Administrator to establish and implement the Texas Rain Catcher Award competition and recognition program. The program, a first-of-its-kind in Texas, promotes rainwater harvesting, educates the public about the benefits of rainwater harvesting, and recognizes those dedicated to conserving our precious water resources. The competition is open to all individuals, companies, organizations, municipalities, and other local and state governmental entities in Texas, except current TWDB employees and Board members. Winners are chosen by a panel of judges consisting of TWDB staff.

As the state's lead agency for rainwater harvesting, TWDB provides information and education to the public on all aspects of rainwater harvesting through our website and with printed materials. For example, The Texas Manual on Rainwater Harvesting (3rd edition, 2005), a popular guide published by the TWDB, provides an introduction to rainwater harvesting and to designing residential and small-scale commercial systems. TWDB is also required to make rainwater harvesting training available to permitting staff of certain cities and counties. Subject to availability of funding, TWDB provides limited financial support (grants) for rainwater harvesting research studies.

Our Mission : **Board Members**

To provide leadership, information, education, and support for planning, financial assistance, and outreach for the conservation and responsible development of water for Texas :
: Bech Bruun, Chairman | Kathleen Jackson, Member | Peter Lake, Member
:
: Kevin Patteson, Executive Administrator

Since the creation of the Texas Rain Catcher Award program in 2007, TWDB has recognized 31 entities and one individual. The 2014 awardees were the Twin Oaks Library, Oohla Bean Bed and Breakfast, the Leadership Montgomery County Class of 2014, RainDrop Harvesting Solutions, and the Texas Department of Transportation.

KEY ISSUES

For the 2015 Texas Rain Catcher Award, one awardee is proposed for each of the following categories.

Agriculture: Bob Durham & Natural Resources Conservation Service

Mr. Bob Durham decided on a proactive solution to recent drought conditions in the Panhandle. After contacting the U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS) for technical assistance on water conservation planning measures, Mr. Durham and NRCS engineering staff designed a rainwater harvesting system that captures water from the roofs of two large livestock barns and stores it in six linked 5,000-gallon polyethylene tanks. Gravity-fed pipes deliver water to cattle troughs in nearby pastures.

The system can provide a month's worth of water for 25 head of cattle with just two inches of rain. Financial assistance was provided by the Environmental Quality Incentives Program offered by NRCS for this agricultural water harvesting system. Mr. Durham will save additional money, and conserve water, through reduced pumping of groundwater from the Ogallala Aquifer. This system would be the first to be recognized with a Texas Rain Catcher Award in the agriculture category.

Commercial: Seaholm Power Development, LLC

The Seaholm Power Plant rainwater harvesting system in Austin is an industrial scale project that uses repurposed power plant cooling infrastructure. The 325,000-gallon system provides all of the normal irrigation needs of the five acre site and surrounding streetscape plantings and doubles as a water quality control system for the site and surrounding public streets.

Rainwater is collected from roof tops and the plaza within the development, plus surrounding streets, and is stored in intake pipes and weirs of the former power plant cooling system. When the system fills to capacity after a large rain event, water drains into an irrigation system for adjacent parkland, emptying the system for the next rain event. By repurposing existing large volume infrastructure, system costs were held to a minimum and irrigation water for the intensely landscaped urban site is now being provided at a much reduced cost. Custom manhole covers for the weir caps and interpretive signage educate the public on the otherwise largely invisible system.

Community: Hill Country Youth Event Center

The Hill Country Youth Event Center Complex in Kerrville opened in December 2012 and hosts as many as 30,000 visitors a year at numerous community events. Rainwater is harvested from the roof of the 72,000 square-foot building and from the west side of the adjacent indoor arena and collected in two 65,000-gallon galvanized storage tanks fitted with food-grade liners.

The collection system provides all the water for the 45 indoor and 18 outdoor livestock wash bays and for all the toilets and urinals in the exhibit hall. The water is also used for dust control in the indoor arena and to irrigate the event center's native Texas landscaping. By harvesting the rainwater, localized flooding, erosion, and runoff into the Guadalupe River are reduced.

Although the system is backed-up by the City of Kerrville's municipal water supply, harvested rainwater has supplied all the needs of the complex since it opened. The system was funded by a Kerr County bond election.

Educational: Luci and Ian Family Garden

The new Luci and Ian Family Garden at the Lady Bird Johnson Wildflower Center educates visitors about water and energy conservation through numerous interactive features. Water Storage Tanks, Inc. worked with TBG Partners Architects to design and build an 8,000 gallon inverted roof tank that collects rainwater from a wooden pavilion and adjacent restroom facility.

The collected rainwater replenishes Dinosaur Creek, an artificial water feature that provides habitat for fish, frogs, turtles and aquatic invertebrates, and which also feeds the waterfall in the Hill Country Grotto in the heart of the garden. This project is Sustainable Sites Initiative (SITES) certified, meaning it helps reduce water demand, filters and reduces stormwater runoff, provides wildlife habitat, reduces energy consumption, improves air quality, improves human health, and increases outdoor recreation opportunities. Based on estimates prepared by the Wildflower Center, this system and other on-site cisterns contribute to annual savings of \$24,226 in water fees and \$10,462 in wastewater fees.

Residential: Alvarez Residence

The Alvarez house in San Antonio uses an innovative approach to store rainwater. When construction started, the driveway leading to the garage at the house was four feet below the level of the garage and had to be raised to garage level using hundreds of tons of fill.

Using this opportunity, Aquabank, Incorporated created 18,000 gallons of storage space for rainwater in the fill material in the driveway. They lined the driveway with an impervious membrane, used washed structural gravel to fill the driveway, and capped and brought it to grade with the garage using concrete. The void spaces between the gravel provide storage space for rainwater, much like in a natural gravel aquifer. Rainwater flowing off the roof of the house, the driveway, and the patio is collected in the gravel fill under the driveway and then pumped into a drip irrigation system to water plants when needed. This type of structural aquifer could provide rainwater storage below driveways, foundations, or any place where extra fill is required.

Honorable Mentions

The judges recommend three applications for honorable mentions. The honorable mentions are:

- Soil science and water resources students at Abilene Christian University for transforming a Bermuda grass patch into a water harvesting and food producing garden that minimizes the need for supplemental water while keeping rainfall on site.
- The People/Plant Connection, a nonprofit in San Angelo, for recognizing harvested rainwater as the most cost-effective water source for irrigation of the educational garden at the local recreation center.

- The San Antonio River Authority, for using rainwater harvesting, rain gardens, and native vegetation as part of their stormwater management and restoration project within the Mission Reach Operation Center.

The judges also recommend making a posthumous award to one individual. This award recognizes a lifetime of dedication to the promotion of rainwater harvesting and water conservation. While this award is not for a project per se, it is being recommended because of the far reaching impact the individual had in promoting the adoption of rainwater harvesting and water conservation across the state.

Honorary: Mr. Jack Andrew Hollon

In the classrooms where he taught for more than 30 years, at public forums, and in quiet conversations with elected officials, Mr. Jack Hollon is remembered by his peers for always bringing rainwater harvesting into discussions about water conservation, protecting aquifer levels, and local growth and development. He was part of the working group that planned, promoted, and facilitated the Rainwater Revival, a now hugely popular annual event that educates Texans about the benefits of rainwater harvesting. Mr. Hollon's tireless advocacy truly exemplifies the Texas Rain Catcher Award.

RECOMMENDATION

The Executive Administrator recommends that the Board members of the TWDB present the 2015 Texas Rain Catcher Awards to the above-named recipients.

Attachment(s): none