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Conservation Matters

THE TEXAS LAND, WATER AND WILDLIFE CONNECTION

A publication of the Texas Water Resources Institute and the Texas A&M Institute of Renewable Natural Resources

Youth field day at Temple Ranch covers wildlife and conservation basics

More than 200 seventh grade students gathered at the Temple Ranch near Freer, Texas, for the third annual Notice Nature Field Day **Nov. 20**. Hosted by Temple Ranch, the event brings together students from across Duval County for a day outside the classroom, filled with presentations, demonstrations and hands-on activities about the environment, wildlife, wetlands, land stewardship and how research helps Texans manage wildlife and habitats.

“The first year, the event was just a field trip for one class as a supplement to its science curriculum that year, which was conducted in partnership with the Texas Wildlife Association’s LANDS (Learning Across New Dimensions in Science) program,” said **Jenny Sanders**, education and outreach coordinator for the Temple Ranch. “The field trip was such a hit that we wanted to figure out how to get more students involved. One phone call led to another, and now all the seventh graders from all three Duval County schools participate.”

The annual field day is a collaboration among Temple Ranch, Agua Poquita Soil and Water Conservation District, Duval County schools, Texas Parks and Wildlife Department (TPWD), USDA - Natural Resource Conservation Service, Caesar Kleberg Wildlife Research Institute, South Texas Natives, the Texas A&M Institute of Renewable Natural Resources (IRNR) and numerous private individuals. Temple Ranch is privately owned and operated by **Arthur “Buddy” Temple** and his wife, **Ellen Temple**, and managed by **Robert Sanders**. Their efforts in restoring the ranch from an overgrazed and barren state into a haven for wildlife won Temple Ranch the 2011 Texas Leopold Conservation Award, sponsored by Sand County Foundation and TPWD, the highest honor in the Lone Star Land Steward awards program.

The field day provides a unique opportunity for state biologists and enforcement officers, ecologists, scientists and conservationists to come together and share their passion for nature with students who might otherwise not learn about wildlife professions, organizers said.

The seventh graders cycled through eight stations that included presentations about soil types and erosion, wetlands and their importance in an ecosystem, and the role of game wardens in conservation and management. Another station demonstrated prescribed burning and how it is used as a management tool for wildlife and habitats. Students were also taught about how their food comes to their table, at the “Pasture to Plate” station, which included a live steer.

Students gained hands-on experience at the upland game bird research station, where they learned about wild turkeys, turkey biology and wildlife research techniques, including radio tracking using telemetry.

“We hid some transmitters out in the bushes around our station and let the students use a telemetry receiver to track them down,” said **Dr. Bret Collier**, IRNR research scientist, who leads a research project on turkeys at Texas A&M University. “They have to listen carefully to the speed and volume of the beeps the receiver makes, which indicates whether they are traveling in the right direction and how close they are. I think they got a kick out of it.”

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As an added bonus, they were able to get up close with McQueen, a 6-month-old male turkey found abandoned on the ranch that is being raised by the ranch manager, Robert Sanders, and his family.

“McQueen was a real hit,” Robert Sanders said.

Another big hit with the students was the Animal Adaptations station, where **Daniel Kunz** and **Matt Reidy** of TPWD and **Tiffany McFarland**, IRNR research associate, taught students about skulls and skins from their local wildlife and how the animals’ biology makes them experts at what they do to survive. Toward the end of the presentation, Reidy, an avid falconer, brought out his 6-month-old Peregrine falcon for the students to see up-close.

The final event of the day gave the students a chance to see and feel the insides of a white-tailed deer. **Dr. Bill Eikenhorst**, a Brenham veterinarian, led what was probably the most hands-on experience for the students. Six deer were necropsied as part of the ranch’s annual harvest management program, and students were able to gather around a deer, and with the guidance of Eikenhorst and some rubber gloves, examine different parts of a deer, both inside and out.

“These deer gave their lives so that you can learn from them and about them. That is their gift to you, so take advantage of what knowledge you can obtain from this experience,” Eikenhorst said.

Because dissection laboratories in schools use much smaller animals, for many students this anatomy lesson was a valuable opportunity. Although there was some initial squeamishness, students quickly got into the idea and jumped right in.

Weevils successfully damaging giant salvinia at Caddo Lake

Texas A&M AgriLife scientists are seeing significant areas of giant salvinia destroyed by salvinia-eating weevils at Caddo Lake on the Texas-Louisiana border as part of the Caddo Lake Giant Salvinia Eradication project, according to scientists.

After releasing approximately 100,000 weevils at two research sites in the last two years, **Dr. Allen Knutson**, Texas A&M AgriLife Extension Service entomologist, and **Lee Eisenberg**, AgriLife Extension assistant with the Texas Water Resources Institute (TWRI), recently found large mats of salvinia destroyed by the weevils at the sites, Knutson said. Areas adjacent to the release sites show vigorous growth of salvinia, he said.

“I believe we are finally making some progress with the weevils at Caddo, and if these populations overwinter well, we should see an even greater impact next year,” Knutson said of their continuing battle to manage giant salvinia at Caddo.

“For the first time since this project began, salvinia weevil populations were established and overwintered, and are now causing significant damage to the mat of salvinia choking Caddo Lake,” Eisenberg added. The project, managed by TWRI, is funded by Congressional support through the U.S Department of Agriculture - Natural Resources Conservation Service.

Giant salvinia appeared on Caddo Lake in 2006 and by late 2013 had spread to cover an estimated 6,000 to 8,000 acres. Giant salvinia is an aggressive, free-floating aquatic fern native to South America that can double in size in four to 10 days under favorable growing conditions. Knutson said the fast-growing plant forms dense mats, which interfere with water recreation, displace native vegetation and reduce oxygen content of the water, often harming fish and other aquatic life.

Knutson said the team released 55,000 adult weevils in May and July 2012 at the Bird Roost area of Caddo Lake. Although the weevil population did not increase sufficiently in 2012 to damage the salvinia, Knutson said the weevils were still present in 2013, providing the first evidence that weevils had successfully overwintered. By early November t[illegible] destroyed the salvinia mat.

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“The mat of dead plants has sunk, revealing open water and only scattered and small salvinia plants survive at this site,” he said. “The area of weevil damage is currently estimated at about eight to nine acres.

“This success demonstrates that weevils can overwinter during mild winters at Caddo and have an impact on salvinia infestations,” Knutson said.

Eisenberg said samples processed from this site averaged 52 adult weevils per kilogram of sample.

“Our target density to achieve salvinia control is about 40 weevils per kilogram of salvinia, so this target number has been far exceeded and is clear evidence that the mat’s destruction is from the weevils released last year,” he said.

In another area of the lake, called Lone Pine Stretch, the team released 41,000 weevils in May and July 2013. Knutson said they have observed damage to giant salvinia at this site, but it is not yet as extensive as the impacts seen in Bird Roost.

“This site is only about half an acre in size, but we have also measured a corresponding decline in salvinia biomass of approximately 75 percent at this site,” Knutson said. “The damaged area is expected to rapidly expand next year, as it did the second year following weevil releases at Bird Roost.”

Weevils are raised at the Center for Invasive Species Eradication weevil-rearing facility at the U.S. Fish and Wildlife Service’s Caddo Lake National Wildlife Refuge.

Finding strains of salvinia weevils that can overwinter successfully in the climate at Caddo Lake has been an ongoing research topic, Knutson said.

“Our research has demonstrated that populations of salvinia weevils vary in their ability to survive freezing weather,” Knutson said. “With these 2012-released weevils surviving the relatively mild winter, we expect the impact of the weevils to continue to grow. However we still need to find cold-tolerant strains of the salvinia weevils that are better adapted to colder climates and reproduce at colder temperatures.”

Knutson said they are conducting cold tolerance studies with salvinia weevils from Argentina.

“Weevils in southern, and therefore colder, latitudes in Argentina should be more cold tolerant than those currently in the United States, which were originally collected from Brazil,” Knutson said. “Finding more cold-tolerant weevil populations would be especially helpful when colder winters return to East Texas.”

The AgriLife entities are investigating ways to control the invasive plant through biological control as well as chemical methods as part of the center’s Caddo Lake Giant Salvinia Eradication project, said **Lucas Gregory**, TWRI project manager.

For more information, see cise.tamu.edu/caddo, follow the project’s blog or keep up with their efforts on Facebook. Read the full story at AgriLife TODAY.

GIS training course set for Jan. 15-16 in College Station

The Texas A&M Institute of Renewable Natural Resources (IRNR) will conduct an “Introduction to ArcGIS 10,” training course **Jan. 15-16** in College Station.

The two-day course will be 8:30 a.m. to 5 p.m. in Room 200 of the Centeq Building, 1500 Research Parkway in Texas A&M University’s Research Park.

The course teaches the range of functionality of the software and the essential tools for visualizing, creating, managing and analyzing geographic data, according to **Amy Snelgrove**, IRNR program manager and instructor for the course. Snelgrove has her GISP and CTT+ certifications.

“The exercises of this hands-on course emphasize practice with ArcMap and ArcCatalog to perform common GIS tasks and workflows,” Snelgrove said. “Students will learn the tools for creating and managing geographic data, displaying data on maps in different ways, and combining and analyzing data to discover patterns and relationships. By the end of the course, they will be prepared to work with the software on their own.”

The course fee is $500 and includes refreshments, course materials and a certificate of completion.

“The fee minus a nonrefundable processing fee will be refunded if the institute receives notice of cancellation at least six business days prior to the class start date,” Snelgrove said.

The registration form is available on the course’s webpage at irnr.tamu.edu/arcgis. Classes are limited to 10 participants.

Snelgrove said four additional 2014 dates are set for the course: **March 25-26**, **May 13-14**, **July 29-30** and **Oct. 8-9**. On-site training can also be scheduled by contacting Snelgrove at amy-snelgrove@tamu.edu.

For more information, visit the website or contact Snelgrove.

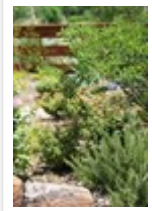
Southwest Stream Restoration Conference coming to San Antonio in May

The Southwest Stream Restoration Conference will be held **May 28–30, 2014**, at the Hyatt Regency Riverwalk in San Antonio.The conference theme is “Streams in a Dynamic World: Managing Today for Resiliency Tomorrow,” and the event will include presentations, panel discussions, exhibits and professional networking focused on ecosystem restoration, according to organizers.

Practitioners, managers, scientists and regulators are encouraged to attend. Abstract, poster and workshop proposal submissions are due **Dec. 31**. Sponsorship/exhibitor opportunities are also available.

Registration is $425 for participants, $225 for guests and $125 students. For more information, visit southweststream.org, and follow the conference on Facebook. The Texas Water Resources Institute is a presenting partner of the conference.

Texas Water Star Program workshop for urban water users set for Feb. 14



The Texas A&M AgriLife Extension Service’s Texas Water Star Program will hold an Earth-Kind landscaping workshop **Feb. 14, 2014**, at the San Antonio Botanical Garden, 3310 N. New Braunfels, in San Antonio.

The workshop will focus on the primary fundamentals of Earth-Kind landscaping, said **Jared Beaver**, AgriLife Extension program coordinator for water and natural resources with the Texas Water Resources Institute and Texas A&M Institute of Renewable Natural Resources. The program will include landscape water conservation through efficient irrigation systems, irrigation evaluations and auditing, using best management practices to improve plant selection and conserve water use reduction of landscape waste entering landfills, and landscaping for energy and water conservation.

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“The Earth-Kind techniques that will be covered are research-proven and are designed to provide maximum garden and landscape enjoyment while showing how to preserve and protect the environment,” he said.

Bexar County AgriLife Extension Agent for Horticulture **David Rodriguez** will help lead this workshop, Beaver said.

The workshop is targeting recreational, public and residential landscape irrigators and contractors, ground maintenance personnel, retail nurseries and other users of urban water resources. “Although the green industry professionals are our target audience, there are many in the public who can also benefit from this workshop, so they are invited to participate,” Beaver said.

Participants can earn five Texas Commission on Environmental Quality licensed irrigator continuing education units or six Texas Nursery Landscape Association continuing education units.

Registration is $50 in advance or $60 at the door on the day of the workshop. For more information, contact **Angel Torres** at 210.467.6575 or matorres@ag.tamu.edu.

The Texas Water Star Program is an AgriLife Extension umbrella program to manage existing efforts such as Earth-Kind®, Xeriscape™, Texas Smartscape®, WaterWise, YardSmart and Texas Water Smart in Texas’ seven major urban counties — Bexar, Dallas, El Paso, Fort Bend, Harris, Tarrant and Travis.

The goal of the program is to help increase resources and knowledge about conserving water in urban landscapes through educational and training events and ultimately to make every drop count because according to the state water plan, demand for municipal water is expected to increase 71.4 percent by 2060, Beaver said.

“Increased focus and resources to address current knowledge gaps, develop practices and recommendations that significantly enhance water conservation while reducing the risk of contamination in urban activities, particularly landscape irrigation, is necessary to the economy of Texas and gravely needed,” Beaver said.

“Therefore, the Texas Water Star Program is seeking new ways to improve water conservation throughout the state by establishing collaborative partnerships with groundwater conservation districts, green industry professionals, regional water planning groups, water districts and utilities, river authorities, school districts, home owners associations and various other entities and stakeholders.”

Beaver said the program in Bexar County hopes to reach more than 150 landscape professionals in recreational, public and residential urban landscape areas such as golf course and school ground keepers, turf grass managers and city and county park facility managers by the end of 2014.

The Bexar County Texas Water Star Program currently has activities and educational seminars planned through October 2014. Some of those activities include a sports athletic field education workshop, information about irrigation audits and demonstrations on water conservation in landscapes. For information about the upcoming Bexar County program activities, contact Beaver at JBeaver@ag.tamu.edu.

For more information about the Texas Water Star Program, contact **Dr.Monty Dozier**, AgriLife Extension south regional program director, at m-dozier@tamu.edu; **Marvin Ensor**, AgriLife Extension west regional program director, at m-ensor@tamu.edu and **Dr. Ronald Woolley**, AgriLife Extension east regional program director, at r-woolley@tamu.edu.

Watch video recap of the Texas Water Journal Forum for free

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The Texas Water Journal, an online, peer-reviewed journal about Texas water issues, recently held its inaugural Texas Water Journal Forum, “Water, Politics and Drought,” **Nov. 21** in Austin. Fifty people attended with another 20 watching the live stream of the forum.

The free forum provided perspectives from policymakers, scientists, water resource experts and regional leaders on current water issues, according to **Dr. Todd Votteler**, editor-in-chief of the journal.

“Much of the discussion among the panel revolved around House Bill 4 and the Proposition 6 vote that funded the SWIFT (State Water Implementation Fund for Texas),” Votteler said. ”In particular there was much discussion about how the SWIFT money will be spent.”

Forum panelists were **Brad Castleberry**, a principal in the law firm of Lloyd Gosselink Rochelle & Townsend, P.C.; **Ken Kramer**, volunteer water resources chair and legislative advisor for the Lone Star Chapter of the Sierra Club; **Dean Robbins**, assistant general manager of the Texas Water Conservation Association; and **Stacey Steinbach**, executive director of the Texas Alliance of Groundwater Districts.

A video of the forum is available for viewing on YouTube.

Votteler said the forum was the first of many the journal hopes to present at different universities that highlight priority and emerging water issues in Texas. The University of Texas at Austin’s Environmental Sciences Institute hosted this forum and the spring forum is tentatively planned in San Antonio.

The Texas Water Journal is published jointly by the Texas Water Journal, a nonprofit organization; and Texas Water Resources Institute. To read the journal, visit texaswaterjournal.org.

New method of restoring wetlands successful along Gulf Coast

More than 135 acres of prairie wetland habitat have been restored near Houston with a new method that may help additional acreages be recovered, according to Texas A&M AgriLife Extension Service experts.

The prairie wetlands at Sheldon Lake State Park have been restored over a 10-year period using a novel approach of re-excavating soil covered up by other land-use situations, particularly agriculture, said **Marissa Sipocz**, AgriLife Extension wetland program manager in Houston.

“The method we have used has changed how freshwater prairie wetland restoration and creation will take place along the Gulf Coast,” Sipocz said. “The genius of this method relies on its simplicity: re-excavation of the original soils.”

The method, called “Sheldon-Sipocz,” uses high-tech, precision equipment to dig added soil out of an area until the original soils are exposed. These hydric soils are more conducive to the growth of plants that thrive in shallow water.

The method was pioneered by **Andy Sipocz**, biologist for the Texas Parks and Wildlife Department (TPWD). Prior to this method, wetland areas were commonly created by digging a depression or pond randomly on the landscape, often not in the type of environment and soils that encouraged wetland plant growth, Marissa Sipocz explained.

She said beginning in 2003, AgriLife Extension partnered with Texas Sea Grant, TPWD, and U.S. Fish and Wildlife Service to begin restoration of the Sheldon Lake State Park.

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“The goal was to transform the park into a recreational haven within the city limits of Houston,” Sipocz said, “and to provide the public with a glimpse of the region’s natural landscape.”

The area originally was coastal prairie with pine and oak tree savannas dotted by marsh basins, a landscape that once covered millions of acres along the Texas-Louisiana Gulf Coast, according to the wetland team, which includes people with the Texas Master Naturalist program, TPWD and AgriLife Extension.

“Wetlands also store rainfall runoff and remove pollutants from surface waters, thus reducing downstream flooding and improving the water quality of Carpenters Bayou and Galveston Bay,” she said.

Restoration of Sheldon’s wetlands thus far has occurred in three phases with the Wetlands Restoration Team, Texas Master Naturalists and local high school students planting the water-inundated basins.

In all, more than 7,500 hours were volunteered along with some 3,000 hours given by students to plant about 123,000 native wetland plants.

For more information, read the full news release at AgriLife TODAY.

New papers in the Texas Water Journal

The Texas Water Journal recently published an article in its Volume 4, Number 2 issue and a commentary in its Volume 4, Number 1: Special Issue: Groundwater.

Freshwater inflow requirements for the Nueces Delta, Texas: *Spartina alterniflora* as an indicator of ecosystem condition by **Dr. Joseph Stachelek** and **Dr. Kenneth H. Dunton** examines fluctuations in the abundance of selected salt marsh plants and uses this information to develop estimates of freshwater inflow needs.

The legacy of Charlie Flagg: narratives of drought and overcoming the monster in West Texas water policy debates by **Dr. Ken Baake** presents Texas water law history, the Ogallala Aquifer and its users as a continuing story in which producers and government policymakers are actors. The author uses Kelton’s drought novel and scholarly insights into how narrative works as a means of interpreting and contextualizing comments made at several West Texas agricultural water policy hearings.

The Texas Water Journal is an online, peer-reviewed journal devoted to the timely consideration of Texas water resources management and policy issues from a multidisciplinary perspective that integrates science, engineering, law, planning and other disciplines. Authors interested in submitting papers to the journal should go to journals.tdl.org/twj/index.php/twj/user/register and check the box marked “Author.” Those interested in serving as reviewers for submitted papers can also register. To be notified each time a paper or issue is published, interested individuals can register as a “Reader.” To read the journal without registering, visit its website.

The journal is published jointly by the Texas Water Journal, a nonprofit organization, and the Texas Water Resources Institute.

Colorado River Alliance and Austin Water launch mobile river experience

In partnership with Austin Water, the Colorado River Alliance (CRA) has expanded its youth education programs to include the Texas Colorado River Mobile Learning Experience, according to CRA.

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With plans to launch in the 2014–2015 school year, the Colorado River Alliance will work directly with Austin Water and Austin Independent School District (AISD) to bring the field trip experience to more than 5,000 seventh grade students in AISD. In addition, CRA and Austin Water plan to reach an additional 3,000 to 5,000 sixth thru eighth grade students at surrounding area schools.

The Texas Colorado River Mobile Learning Experience will function as a traveling, interactive science museum, using interactive exhibits and hands-on activities housed inside a 40-foot trailer. With the Texas Essential Knowledge and Skills (TEKS) aligned curriculum, interactive models will engage and instruct, inspiring students to go out and make a difference, according to CRA.

“The Mobile Learning Experience will be a great opportunity to teach children in Austin the crucial fundamentals about our water source,” said **Charlie Gutierrez**, AISD science supervisor.

Overall program goals are to reduce the water use within the Colorado River basin, increase knowledge for a healthier Colorado River, and develop a workforce of professionals with a high knowledge base of water quality and water quantity needs for a sustainable water supply.

CRA is a nonprofit dedicated to the protection and conservation of the Texas Colorado River. For more information about the Texas Colorado River Mobile Learning Experience or the Colorado River Alliance, contact **Sarah Richards** at 512.498.1587 or sarah@coloradoriver.org.

New water recycling video from the Texas Conservation Alliance

The Texas Conservation Alliance has produced a 5-minute video, *Water Recycling: The Wave of the Future*. The video features recycling through wetlands at the John Bunker Sands Wetland Center in North Texas and membrane filtration and shows how water recycling is safe and cost-effective. The video is available to view on YouTube and hard copies are available at no charge by emailing tca@tcatexas.org.

The alliance is the Texas affiliate of the National Wildlife Foundation.

Natural Resources Training Courses

Introduction to ArcGIS 10	Jan. 15-16, 2014
Introduction to ArcGIS 10	March 25-26, 2014
Introduction to ArcGIS 10	May 13-14, 2014
Introduction to ArcGIS 10	July 29-30, 2014

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