May 2014

Conservation Matters

THE TEXAS LAND, WATER AND WILDLIFE CONNECTION

New *txH$_2$O* examines groundwater in Texas

Did you know groundwater is the largest source of water in Texas, comprising almost 60 percent of water use in the state? Did you also know that storing water supplies underground is becoming an important tool for helping Texans meet future water demands?

You can learn about these groundwater issues in Texas and more in the Summer issue of txH$_2$O. Stories look at popular topics such as desalinating brackish groundwater and aquifer storage and recovery, both of which will provide additional drinking water sources for thirsty communities in the future. Other articles examine innovative programs for preserving groundwater, including the Edwards Aquifer Habitat Conservation Plan and its Regional Water Conservation Program, and San Antonio's Edwards Aquifer Protection Program and Austin's Water Quality Protection Lands Program. The Texas Well Owner Network is also highlighted in a story about maintaining groundwater quality.

The new issue is available online at twri.tamu.edu/txh2o. Print subscribers will receive their copies soon, and free subscriptions to the digital version of the magazine are available at twri.tamu.edu/publications/subscribe.

Position announcement: TWRI director

The search is underway for a director of the Texas Water Resources Institute (TWRI). The position vacancy is posted on the Texas A&M AgriLife Great Jobs website.

This position will lead the Texas Water Resources Institute, which focuses on water-related applications, including water quality, supply and water use in Texas, the U.S. and internationally. The director will provide intellectual, philosophical and strategic leadership to system faculty and the institute's scientists, staff and students to meet teaching, research and extension missions. The director will be responsible for developing optimum tactical and strategic responses to water-related issues and opportunities and will manage the human and fiscal resources, including leading a contract and grants program that elevates water-related efforts throughout the Texas A&M University System.

This position requires a doctorate and fifteen years of relevant post-poctorate experience, with a documented record of distinction in teaching, research and/or extension, along with experience leading and managing interdisciplinary water-related programs and teams. Preference will be given to candidates with a doctorate in water-related science, engineering, policy or management and who are recognized experts in the field.

Visit the Great Jobs posting for more details. Texas A&M AgriLife is an Equal Opportunity/Affirmative Action/Veterans/Disability employer.

Dr. Roel Lopez is currently TWRI interim director as well as director of the Texas A&M Institute of Renewable Natural Resources and will continue in the later role following the hiring of a new TWRI director. The institutes will continue to work together and share staff and services.

Aquifer storage and recovery initiative aims to increase expertise, research

While not widely used in Texas, experts with The Texas A&M University System are promoting aquifer storage and recovery (ASR) through a new initiative to increase expertise in this subject area as well as conduct more research on potential aquifers and increase the public's knowledge.

The project, *Aquifer Storage and Recovery for Texas – A Research and Extension Initiative*, was recently funded by money provided to Texas A&M Engineering Experiment Station (TEES) by the Texas Legislature.

"The broad goal of the project is to develop a 'working group' of Texas A&M University System research and extension personnel capable of addressing the future ASR technical needs of Texas," said **Dr. Gretchen Miller**, assistant professor of water resources engineering in the Zachry Department of Civil Engineering and the project's principle investigator.

Other investigators on the project are **Dr. Calvin Finch**, director of the Water Conservation and Technology Center (WCTC), administered by the Texas Water Resources Institute and Texas Center for Applied Technology (TCAT); **Dr. Dorina Murgulet**, assistant professor of hydrogeology at Texas A&M University–Corpus Christi; **Mike Martin**, interim director for the environmental sustainability division at TCAT; and **Dr. Brenda Rushing**, assistant professor of biology at Texas A&M University–San Antonio.

The working group is an interdisciplinary team including experts in not only ASR but also hydrogeology, groundwater monitoring, conservation education, Texas water planning, environmental engineering, wastewater management, energy conservation and human health barriers to integrating ASR into indirect potable reuse systems.

"The project will develop new groundwater modeling tools to help predict the potential for ASR to affect water quality in an aquifer, assess using ASR in several major Texas aquifers, and conduct outreach through delivery of short-courses and presentations on ASR around the state, as well as development and distribution of educational materials on ASR," Miller said.

"By the end of the project, we expect to have a good evaluation of the prospects for ASR use in Texas," she said.

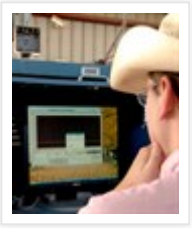
"There are a lot of different issues to address," Finch said. "What aquifer characteristics work best? What are the economics of ASR? What policies and legislation restrict use of ASR and what is needed to address them? What are potential contamination issues? What is the recovery potential of injected water and what will its condition be when withdrawn?

"There's just a huge area that we need to be working in if we're going to take advantage of the full potential of aquifer storage and recovery."

Miller said the hope is that this initiative will ultimately set the stage for the creation of an ASR center as part of the WCTC. "We also anticipate that it will generate greater interest and investment in ASR," she said.

"I hope we can continue our progress toward a day when we have that knowledge and are recognized as contributing the way we should be to getting the ASR technology utilized in the state," Finch said. "There are a lot of opportunities out there and it's an important technology. To me, it makes so much more sense than a surface reservoir in terms of cost, environmental pressures, speed and efficiency of it for storage."

Learn social marketing June 18–19 in College Station



The Texas Watershed Planning Program of the Texas Water Resources Institute (TWRI) is sponsoring a social media workshop for natural resources professionals **June 18–19** at Texas A&M University.

The Social Marketing for Natural Resource Professionals training will be from 1-4 p.m. **June 18** and from 8:30 a.m.-3:30 p.m. June 19, in Room 113 of the Texas A&M University Agriculture and Life Sciences Building, 600 John Kimbrough Blvd., College Station. Participants can register for one or both days. Registration is $40 for June 18, $50 for **June 19** or $80 for both days. The **June 19** training includes lunch.

Amy Hays, program specialist for the Texas A&M Institute of Renewable Natural Resources (IRNR) and workshop trainer, said the first day will be "hands-on" and cover the basics of the social media platforms Facebook and Twitter and how to get more out of them.

"The second day attendees will learn how to make what they do relevant on the web — whether it is on their website, blogs, Facebook, Twitter or other places — as well as make it more searchable, shareable and liked," Hays said.

She said participants will learn how to use Twitter, better comprehend Twitter conservations and discover more information. She also will explain how to curate Twitter and Instagram to create better program outreach.

"We have to know where to post, when to post and what to build on our websites. We have to learn how to reach traditional clients as well as new clients," she said. "There are many successful models that can be used and applied in natural resource outreach and education."

Nikki Dictson, TWRI program specialist, said the watershed planning program is sponsoring this workshop to help natural resources professionals involved in watershed protection planning better understand the role social media can play in interacting with watershed stakeholders.

"By better understanding how to use the various social media platforms, these professionals will be able to connect with more stakeholders and provide more information quickly," Dictson said. "Getting a dialogue going through social media will benefit the watershed planning process."

For more information or to register for the workshop, go to watershedplanning.tamu.edu/training. Information on other training programs coordinated by TWRI and IRNR is available at naturalresourcestraining.tamu.edu.

The Texas Watershed Planning Program is funded through a Clean Water Act nonpoint grant provided by the Texas State Soil and Water Conservation Board and U.S. Environmental Protection Agency.

Well owners: Subscribe to new TWON resource

The Texas Well Owner Network (TWON) educates private well owners throughout the state and is now publishing an email newsletter, *Well-Read*, with timely information on protecting groundwater and water wells and details about upcoming TWON trainings and screenings.

To subscribe to *Well-Read*, visit twon.tamu.edu and provide your contact information on the home page. The TWON website also includes numerous resources and publications for well owners and a full schedule of upcoming trainings and screenings. For more information on TWON, water well issues or groundwater questions, visit

twon.tamu.edu or contact **Drew Gholson**, TWON program coordinator and Texas A&M AgriLife Extension Service program specialist, at dgholson@tamu.edu or 979.845.1461.

TWON is managed by the Texas Water Resources Institute and is funded through Clean Water Act nonpoint source funding from the Texas State Soil and Water Conservation Board and the U.S. Environmental Protection Agency.

Wurbs honored by American Academy of Water Resources Engineers

Dr. Ralph Wurbs, Arthur McFarland Professor in the Zachry Department of Civil Engineering at Texas A&M University, was recently named an Honorary Diplomate, Water Resources Engineer of the American Academy of Water Resources Engineers (AAWRE), a part of the American Society of Civil Engineers (ASCE).

AAWRE's Diplomate certification was developed to improve the practice, elevate the standards and advance the profession of water resources engineers. The Honorary Diplomate status is AAWRE's highest honor given to an individual. Since the founding of AAWRE in October 2004, only 32 individuals have received the Honorary Diplomate, Water Resources Engineers (Hon.D.WRE) status. Honorary Diplomate status is granted to outstanding individuals who have attained a position of eminence in the water resources engineering profession, made a singular noteworthy achievement or sustained noteworthy contributions to the advancement of the water resources engineering profession, or rendered outstanding service over a sustained period of time in the field of water resources and to the work of the academy.

Wurbs, along with other new honorary inductees, will be recognized and honored **June 2** during AAWRE's 10th Anniversary Diplomate Ceremony at the ASCE Environmental and Water Resources Institute's 2014 World Environmental and Water Resources Congress in Portland, Oregon.

Read the entire Texas A&M Engineering article for more information.

NRCS accepting agricultural land, wetland conservation easement applications

The U.S. Department of Agriculture–Natural Resources Conservation Service (NRCS) is now accepting applications for its new Agricultural Conservation Easements Program (ACEP).

"This is an exciting new opportunity for even more people to get involved in conserving natural resources," said Texas State Conservationist **Salvador Salinas**.

Created through the 2014 Farm Bill, ACEP funds easements for agricultural lands and wetland reserves. Approved agricultural easements would prevent productive working lands from being converted to non-agricultural uses and maximize protection of land devoted to food production, according to NRCS. Cropland, rangeland, grassland, pastureland and nonindustrial private forestland are eligible. Wetland reserve easements would restore and enhance wetlands and improve habitat. Eligible lands include farmed or converted wetlands that can be successfully and cost-effectively restored.

Applications are currently being accepted for wetlands reserve easements and will be rated according to the easement's potential for protecting and enhancing habitat for migratory birds, fish and other wildlife. Applications must be submitted to Texas NRCS by **June 6** and are available at local USDA service centers or at www.nrcs.usda.gov/GetStarted. Agreements will be evaluated starting in late August.

Read the full NRCS news release for more information. The ACEP combines NRCS' former Farm and Ranch Lands Protection, Grassland Reserve and Wetlands Reserve programs. Learn more about ACEP and other Farm Bill programs at www.nrcs.usda.gov/farmbill.

Zebra mussel rules for boating now expanded statewide

The Texas Parks and Wildlife Commission has approved a new regulation requiring that all boats operating on public fresh water anywhere in Texas be drained before leaving or approaching a lake or river to help combat the further spread of zebra mussels and other invasive species.

The rapidly reproducing mussels, originally from Eurasia, can have a serious economic, environmental and recreational impact on Texas reservoirs. Zebra mussels can clog public-water intake pipes, harm boats and motors left in infested waters by covering boat hulls, block water-cooling systems, annoy lake property owners by completely covering anything left under water, and make water recreation hazardous because of their sharp edges.

With the destructive invasive species having spread to Lake Belton, conservation officials and water-supply agencies are very concerned that zebra mussels could expand their range throughout the state, including Lake Travis and the other Highland Lakes.

"Zebra mussels have been moving steadily deeper into Texas since they were first found in Lake Texoma in 2009," says **Brian Van Zee**, the Texas Parks and Wildlife Department (TPWD) Inland Fisheries Division regional director who has spearheaded the agency's response to zebra mussels in Texas. "Now that they are in Lake Belton, the Highland Lakes are in the cross hairs as are many of the public waters in Central Texas."

David Cowan, Lower Colorado Authority senior water quality coordinator, says the LCRA routinely monitors the Highland Lakes.

"So far we haven't seen any evidence of zebra mussels," Cowan said. "We will continue working closely with Texas Parks and Wildlife in urging the public to help us keep zebra mussels out of the Highland Lakes. The mussels not only are a nuisance, but they could pose serious operational problems for the dams, water intake structures and the general health of the lakes."

While the new measure won't take effect until **July 1**, TPWD urges all boaters to begin the preventative practice immediately since microscopic larvae (called veligers) hiding in boats can travel to another water body and cause a new zebra mussel infestation.

Currently in effect in 47 North and Central Texas counties, the new rule requires persons leaving or approaching public water to drain all water from their vessels and on-board receptacles. This applies to all types and sizes of boats whether powered or not, personal watercraft, sailboats, kayaks/canoes, or any other vessel used on public waters.

"The way to comply with this requirement is simple," Van Zee said. "All you have to do is clean, drain and dry your boat. This is critical, because in their initial state, zebra mussels are invisible to the naked eye."

The soon-to-be statewide rule is similar to those in other states impacted by zebra mussels. Because trailered boats tend to be the most likely way zebra mussels get from one water body to another and boaters in Texas travel throughout the state to engage in various forms of recreational activity, from skiing to fishing, the rule has been made statewide, according to TPWD.

The regulation also requires the draining of live wells, bilges, motors and any other receptacles or water-intake systems in contact with public waters. More details, including where water-draining regulations are currently in effect, is online at www.texasinvasives.org/zebramussels.

For more information, read the full TPWD news release.

The Cattleman magazine features Texas Well Owner Network

Published by the Texas and Southwestern Cattle Raisers Association, *The Cattleman* magazine's annual water issue recently featured the statewide education and water well screening work of the Texas Well Owner Network (TWON).

Texas A&M AgriLife Extension Service personnel conducted 14 free, 6-hour Well Educated TWON trainings during 2013, with about 750 participants. The program continues through 2016, and additional trainings are planned throughout the state each year.

To read the article, visit thecattlemanmagazine.com.

TWON is managed by the Texas Water Resources Institute and is funded through Clean Water Act nonpoint source funding from the Texas State Soil and Water Conservation Board and the U.S. Environmental Protection Agency.

Lone Star Healthy Streams workshop coming to Seguin June 5

A Lone Star Healthy Streams workshop will be held **June 5** at the Texas Agricultural Education and Heritage Center, also known as the Big Red Barn, 390 Cordova Road, Seguin.

The Lone Star Healthy Streams program aims to educate Texas livestock producers and land managers on how to best protect Texas waterways from bacterial contamination associated with livestock production and feral hogs, said **Jennifer Peterson**, Texas A&M AgriLife Extension Service program specialist.

The workshop will begin at 10 a.m. and end by 3 p.m., and a catered lunch will be provided. The free event is sponsored by the Texas Agricultural Education and Heritage Center and the Texas State Soil and Water Conservation Board (TSSWCB).

Three Texas Department of Agriculture general continuing education credits will be provided for certified pesticide applicators. To RSVP for the workshop, visit lshs.tamu.edu/workshops or call Peterson at 979.862.8072.

Currently, about 300 Texas water bodies do not comply with state water quality standards established for E. coli bacteria, Peterson said. By participating in this workshop, livestock producers and landowners can learn specific conservation practices that can help improve and protect the quality of Texas water bodies.

The Lone Star Healthy Streams program is funded through a Clean Water Act nonpoint source grant from TSSWCB and the U.S. Environmental Protection Agency.

Read the full AgriLife TODAY news release for more information.

Lufkin landowner honored with conservation award

Virginia H. Winston of Lufkin, owner of the 3,418-acre Winston 8 Ranch five miles south of Nacogdoches, has been named the 2014 recipient of the Leopold Conservation Award. Winston received the award, the state's highest honor for private land conservation, for her family's ecological transformation of their East Texas land in Nacogdoches County, according to the Texas Parks and Wildlife Department (TPWD).

The ranch is a verdant medley of pine forest, longleaf pine, open range and wetlands providing food and shelter for a resurging population of whitetail deer, quail and Eastern turkeys, officials said.

Given in honor of renowned conservationist **Aldo Leopold**, the prestigious award is conferred each year by the Sand County Foundation, a nonprofit organization devoted to private land conservation, in partnership with TPWD as part of its Lone Star Land Steward Awards program. In Texas, the Leopold Conservation Award Program is sponsored by the Lynde and Harry Bradley Foundation, the Lee and Ramona Bass Foundation, DuPont Pioneer, Farm Credit and The Mosaic Company.

"Thankfully for Texas, more and more landowners are quietly yet diligently working to restore their property to benefit a host of habitats and fish and wildlife species," said TPWD Executive Director **Carter Smith**. "The Winston family has absolutely led by example. Through a substantial commitment of time and effort, they have converted a close-cut tract of land into one of the state's finest examples of exemplary land stewardship. We could not be more proud to recognize them for their important work."

"The nation benefits when private landowners seize opportunities to recover damaged land, as the Winstons have done," said **Brent Haglund**, Sand County Foundation President. "Families like the Winstons show us that the ethic and spirit of Aldo Leopold's writing and work continues."

Winston accepted the Leopold crystal award and a check for $10,000 at the annual Lone Star Land Steward Awards dinner in Austin **May 21**.

"The property has an active wildlife habitat improvement program that involves timber management, prescribed burning, invasive species control, and native habitat restoration," noted U.S. Fish and Wildlife Service biologist **Jeffrey A. Reid** in his nomination of the Winston 8 Ranch. "It is obvious [the Winston family is] planning for the long-term and not just immediate wants and needs."

For more information, read the entire TPWD news release and view this TWPD video about the award-winning ranch.

New IRNR and TWRI projects

History of the San Antonio Viejo Ranch – Phase II

This project consists of archival and other primary research to document the history of San Antonio Viejo Ranch and adjacent ranching communities with special emphasis on change and continuity in land tenure and evolution of ranch community settlements during the period from 1749–1913. This history covers the sovereignty of the nation-states of Spain, Mexico, the United States and the state of Texas, accounting for the wide dispersal of the relevant primary source material, such as documents, reports and maps. This project consists of archival and other primary research to document the history of San Antonio Viejo Ranch and adjacent ranching communities with special emphasis on change and continuity in land tenure and evolution of ranch community settlements during the period from 1749–1913. This history covers the sovereignty

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Funded by: East Wildlife Foundation

Partners: Texas A&M Institute of Renewable Natural Resources, Texas A&M AgriLife Research, Texas A&M University History Department

Fort Sill BCVI – 2014 Option Year 2

Goals and objectives: 1) to map the distribution and numbers of black-capped vireos on Fort Sill Military Reservation during 2014; 2) to obtain an estimate of age and mated status for black-capped vireos on Fort Sill Military Reservation during 2014; 3) to obtain an estimate of reproductive success for black-capped vireos on Fort Sill Military Reservation during 2014 comparable with that obtained in previous years, and to include nest fates, levels of brood parasitism (if any), and young fledged per territory; 4) to assist Natural Resources personnel on Fort Sill with coordination of installation mission and management.

Funded by: Department of Defense – Army Corp of Engineers through the Gulf Cost CESU

Partners: Texas A&M Institute of Renewable Natural Resources, Texas A&M AgriLife Research

Freshwater Mussels Survey of the Bosque River Spillway – Waco

The US Army Corps of Engineers (USACE) is dewatering the stilling basin below the Outlet Works at Waco Lake for the purpose of inspecting and also repairing any damage found during the inspection. As part of the inspection process, an earthen cofferdam will be placed immediately downstream of the Outlet Works, in the Bosque River. The placement of the cofferdam has the potential to smother existing mussel populations. To meet the permitting requirements of TWPD, mussel surveys are needed within the project footprint of the cofferdam to determine whether state-listed mussel species occur in the area and whether they could be impacted by placement of the cofferdam. Commercial divers who are trained for hazardous conditions will sample along transects in the project area. IRNR malacologists will oversee sampling activities, mussel identification, and relocation efforts (if needed).

Funded by: Department of Defense – Army Corp of Engineers through the Gulf Cost CESU

Partners: Texas A&M Institute of Renewable Natural Resources, Texas A&M AgriLife Research

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