

Conservation Matters – April 2013

New Texas A&M survey: Texans care about water issues



A recent survey has revealed that Texans are interested in, and concerned about, the quality and quantity of water in the Lone Star State. Respondents reported being concerned about the increasing number and severity of droughts in Texas and about the availability of enough water to serve all water needs, according to Texas A&M University researchers

The survey was led by **Dr. Arnold Vedlitz**, director of the Institute for Science, Technology and Public Policy (ISTPP) in the [Bush School of Government and Public Service](#) at Texas A&M University. The project and survey were designed by him and other researchers at ISTPP.

"This survey revealed that Texans are very worried about our state's diminishing water resources, and that they are willing to see conservation methods put in place," Vedlitz said. "They are also concerned about how our water resources are managed and used."

The research effort was supported by the Texas Sea Grant Program, TAMU Vice President for Research, and ISTPP in the Bush School. The survey was conducted by the online polling company, GfK in February and March of this year, so the results are scientifically sound and up to date, researchers said.

"One of the things I find most interesting and important in this survey is how strongly Texas citizens feel about keeping water resources available for our natural environmental assets like our bays and estuaries and other environmental life-giving assets so important to our state's health, natural beauty and economy," said **Dr. Pamela Plotkin**, Texas Sea Grant director.

"Policy makers need to be aware of the extent of the public's concern about water issues and their willingness to support a variety of measures to help guarantee the security of the Texas' water supply now and in the future," said Vedlitz.

For more information, read the Bush School [news release](#).

IRNR providing social media training May 15

The [Texas A&M Institute of Renewable Natural Resources](#) (IRNR) will conduct two "Social Media 101—Raising Stakeholder Awareness in an Information Age" training workshops in May.

Amy Hays, IRNR's emerging technology specialist and workshop trainer, said one workshop is set for **May 15** in San Antonio. The workshop, sponsored by the Texas Wildlife Association, will be held at the association's office, 3660 Thousand Oaks Drive, Suite 126.

The second workshop, sponsored by the Houston-Galveston Area Council, is **May 23** in Houston and will be held at council's office, 3555 Timmons Lane, Suite 120.

Both workshops are from 9 a.m.–3 p.m.

The trainings are designed for government and organization representatives and others involved in outreach, information dissemination and advocacy of natural resources, Hays said.

Registration is available through at agriliferegister.tamu.edu, and the cost is \$50 and late registration is \$60, including on-site. Registration includes lunch, and participants are asked to bring their own laptop or handheld device.

Hays said the workshop will focus on teaching participants how to use social media to enhance outreach and engage stakeholders.

"It includes information on the present state of social media, how to use social media as outreach instead of just for personal use, new and old social media tools and creative ways to reach new audiences," she said.

An additional workshop is currently scheduled for **July 18** in Austin.

"The Texas A&M Institute of Renewable Natural Resources works with many state and local partners on a one-on-one basis who are interested in increasing their voice in natural resources management and the ways in which stakeholders can become engaged in problem solving," Hays said. "Every year, we look for ways to help share information, help create an engaged, active and knowledgeable citizenry and elevate the role of science in daily lives. These workshops will transfer some of that learned information to local partners and their constituents."

For more information about the event, contact Hays at ahays@ag.tamu.edu or 254.865.2061 or visit naturalresourcestraining.tamu.edu.

Management of invasive aquatic fern continues at Caddo Lake

By Katie Heinrich



Caddo Lake, the only natural lake in Texas, has seen no reprieve from the fast-growing biomass of giant salvinia (*Salvinia molesta*), a free-floating aquatic fern first introduced in the United States by the water garden industry.

The [Caddo Lake Giant Salvinia Eradication](#) project, established within the [Center for Invasive Species Eradication](#) (CISE) as a joint effort between Texas A&M AgriLife Research and the Texas A&M AgriLife Extension

Service, through the Texas Water Resources Institute (TWRI), has made progress in salvinia management. Biological and chemical controls have been helpful in efforts to limit the invasive plant and help minimize the negative economic and ecological impacts to Caddo Lake since the salvinia infestation began in 2008, according to CISE scientists.

The project is one of the first by the CISE to evaluate invasive plant species within various ecosystems in Texas and produce real-world application methods that could be used to control outbreaks of a species.

There are many factors about the lake's ecosystem to consider when choosing between biological, chemical and mechanical methods to control growth. In the long run, biological probably works the best, said **Lucas Gregory**, CISE program coordinator and TWRI project manager. Although biological treatment application achieves the most gradual results, it is cost-efficient and effective when conditions are favorable, Gregory said.

CISE has used chemical applications on the lake, as well as biological methods. Gregory said that to control something as dominant as the salvinia, control mechanisms must be integrated.

The growth of the salvinia depends on several factors, but the fern's development is mainly weather dependent, Gregory said.

"This past winter was not as cold, so we didn't see the kill that normally comes with a freeze during that time," Gregory said. "On the flip side, since the weather and water are warmer, we may be able to get weevils out quicker and get them growing faster."

Another factor in controlling the species is educating the people, businesses and outside entities around the lake about the giant salvinia.

"When we start seeing good instances of control, people become passive and not as aggressive in tackling the situation for a while, and then we see the growth come back and we again have the pending issue," Gregory said. "We are never going to have complete elimination of the salvinia and probably never going to be able to fully contain it, but the goal is just to maintain the situation."

Range and wildlife management field days set for May in Brown, Kerr counties

Two interagency range and wildlife management field days for landowners, land managers and brush control contractors operating in possible endangered species habitats have been scheduled in late May.

The Texas A&M AgriLife Extension Service will conduct the meetings in cooperation with the Texas Parks and Wildlife Department, the U.S. Department of Agriculture–Natural Resources Conservation Service, Texas Grazing Lands Conservation Initiative and the Texas Section Society for Range Management.

"Both field days will follow a similar agenda but are tailored for their specific site," said **Brian Hays**, [Texas A&M Institute of Renewable Natural Resources](#) associate director. "Registration for each site will last from 7:45–8:15 a.m., followed by the programs which should conclude by 4:15 p.m."

The first field day is set for **May 29** at the Muse Wildlife Management Area, located on County Road 478, about a mile and a half north of Farm to Market Road 1467 in northeastern Brown County. The second program is scheduled for **May 30** at the Kerr Wildlife Management Area, located at 2625 Farm to Market Road 1340 near Hunt.

"We especially encourage any landowner or contractor who plans to conduct brush management within the vicinity of golden-cheeked warbler or black-capped vireo habitat as part of work involving the Natural Resources Conservation Service to attend one of these events," Hays said.

Both field days will start with a morning classroom training followed by field training in the afternoon, and participants are advised to dress accordingly for the afternoon session. Field day topics will include threatened and endangered Texas species updates along with talks and field stops covering grazing, wildlife and brush managements.

Three Texas Department of Agriculture continuing educations units—one general, one integrated pest management and one laws and regulations—will be offered.

Individual preregistration is \$15 five working days prior to each event and \$25 thereafter. The fee includes lunch, refreshments and educational materials.

For more information and to preregister for the Brown County program, call the AgriLife Extension office in Brown County at 325.646.0386. For the Kerr County program, call the AgriLife Extension office in Kerr County at 830.257.6568. Read the full [AgriLife TODAY article](#) for more details.

Arroyo Colorado cleanup efforts paying off



The award-winning cleanup efforts to help revitalize a highly polluted yet important waterway in South Texas are entering their second phase, and officials want public input as they begin updating the [Arroyo Colorado Watershed Protection Plan](#), according to the program coordinator.

Jaime Flores, the Arroyo Colorado watershed coordinator with the [Texas Water Resources Institute](#) in Weslaco, said that phase one of the state's first watershed protection plan is coming to a close, and cleanup efforts through 2020 and beyond need to be defined.

"We need to update the Arroyo Colorado Watershed Protection Plan, which was intended to guide implementation efforts through 2012," he said. "There was so much to do, we couldn't get everything into the first plan. We want stakeholders, which includes the general public, to assess our original plan and help us determine how our future efforts should evolve."

Flores also coordinates the activities of the Arroyo Colorado Watershed Partnership, a group of 700 people, representing federal, state and private organizations working to improve watershed health, integrate management and seek out watershed project funding. Last year, the water institute and the partnership [won the Texas Environmental Excellence Award](#) for its achievements in environmental preservation and protection. The award is presented annually by the governor of Texas and the Texas Commission on Environmental Quality.

The arroyo's watershed covers most of Hidalgo, Cameron and Willacy counties, Flores said. The area is home to 1 million or so people, most of who were not around when the bulk of the area's infrastructure was constructed.

As part of the cleanup plan, since 2007, Valley cities have invested nearly \$68 million in upgrading or building new wastewater facilities, including the installation of tertiary wetland treatment systems. Another phase of the watershed protection plan encouraged and assisted municipalities in using treated wastewater, or "reuse" water, to irrigate city-owned landscaping, parks, sports complexes and golf courses.

"So far, eight cities are now using close to 2 billion gallons of reuse water every year instead of potable water," he said. "By the time the city of McAllen completes its project, that amount will climb to almost 3 billion gallons."

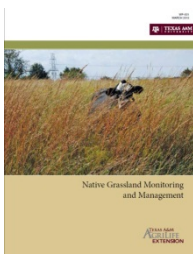
Other efforts to reduce pollution include improved storm drains and farmers' commitment to best management practices that reduce the amount of nutrients and chemicals that find their way to the Arroyo Colorado.

"Education and outreach are also important," Flores said. "More and more cities are now holding their own Earth Days and Arbor Days to improve our environment and encourage recycling and properly disposing of used oil and trash. It's more difficult to build colonias now without the proper infrastructure. All these efforts help clean up the Arroyo."

"The water is constantly being analyzed and people can keep up with this data on our website," Flores said. "And so far data shows that while pollutants haven't decreased, they are no longer increasing. It's leveled off. But the fight has just begun; there's a lot more work to do and we need public input on how to go about that."

To become a member of the Arroyo Colorado Watershed Partnership or to get information on their next meeting, go to arroyocolorado.org or contact Flores at 956.968.5581. Read the full [AgriLife TODAY article](#) for more information.

AgriLife Extension publishes new native grassland management resource



The Texas A&M AgriLife Extension Service has a new resource available to help landowners monitor and manage the health of their native rangeland. The publication, *Native Grassland Monitoring and Management*, targets landowners within the Trinity River Basin and similar areas, said **Blake Alldredge**, AgriLife Extension associate with Texas A&M University's Department of Wildlife and Fisheries.

He said the publication describes in detail several range monitoring and management techniques. It is now available in the [Texas A&M AgriLife Extension Bookstore](#). Alldredge noted that the monitoring and management information offered is

applicable across the state.

"Monitoring the ecological site condition or health of the land is necessary for landowners to evaluate how past land management decisions are affecting the plant, soil and water resources of the landscape," Alldredge said. "Monitoring specifically examines the plant species present and how much area they cover. Being able to see how range conditions change over time, which is also known as range trend, will allow land managers to make the best management decisions as conditions change."

The monitoring techniques covered in the publication will be of particular help to wildlife managers and livestock producers to help them determine what management activities are needed to reverse negative range trends, he said.

The monitoring techniques covered in the publication include photo points, grazing exclosures, nest and cover surveys, grass stubble height surveys and forage clipping surveys. Management techniques covered include chemical and mechanical treatments, prescribed burning, disking, shredding and grazing.

"The main goal of the publication is to connect land monitoring and management techniques with proper watershed protection, because they are one and the same," Alldredge said. "Well-managed native grasslands and tame pastures are important to watershed protection as they increase the water storage capacity of the soil, reduce erosion, promote groundwater recharge and provide more efficient nutrient absorption. Landowners also benefit from increased forage production and quality wildlife habitat."

Alldredge said his bottomline hope is that the publication will aid the watershed enhancement efforts of AgriLife Extension, [Trinity Waters](#) and other groups seeking to improve the wildlife and water quality resources in the Trinity River basin.

The publication was produced through the Building Partnerships for Cooperative Conservation Initiative of the Trinity River basin project. The project is funded by the Texas State Soil and Water Conservation Board through a Clean Water Act grant from the U.S. Environmental Protection Agency and is managed by the Texas Water Resources Institute. Through this initiative, Alldredge said AgriLife Extension has partnered with Trinity Waters, a landowner organization based in the Trinity River basin, to produce educational materials related to water and wildlife conservation for landowners.

For more information contact Alldredge at 979.845.7471, balldredge@tamu.edu, or read the full [AgriLife TODAY article](#).

Universities Council on Water Resources conference set for June

The 41st annual [Universities Council on Water Resources Conference](#) will be held in Lake Tahoe, California, June 11–13. The conference theme is "Sustaining Water Resources and Ecological Functions in

Changing Environments,” and it is coordinated by the Universities Council on Water Resources (UCOWR) and National Institutes for Water Resources (NIWR).

According to organizers, the event is designed for water managers, educators, researchers, and other water professionals. Several Texas A&M University and Texas A&M AgriLife researchers will be presenting at the conference.

UCOWR is an organization of universities, nonacademic institutions and international affiliates leading in water resources education, research and public service. For more information, see ucowr.org. NIWR is comprised of the 54 university-based centers that were established by the Federal Water Resources Research Act. Visit niwr.net for more information. The Texas Water Resources Institute is designated as the water resources institute for the state of Texas and is a part of NIWR.

Environmentally Friendly Drilling program hosting May 14 workshop

The Environmentally Friendly Drilling (EFD) Systems Program is hosting a workshop **May 14** at Pearl Studio, 200 E. Grayson Street, in San Antonio. According to organizers, the workshop will bring together research teams that have been reducing the environmental footprint of oil and gas for over a decade. The EFD program conducts quarterly workshops all over the United States.

"At this workshop, attendees will hear from top industry professionals on the successes and challenges of powering energy production with natural gas," said **Dr. Susan Stuver**, research scientist at the Texas A&M Institute of Renewable Natural Resources and manager of the Environmentally Friendly Drilling West Regional Center.

Texas A&M University and the Houston Advanced Research Center established the EFD program in 2005 to provide unbiased science and develop solutions to address issues associated with oil and gas development. For more information, see efdsystems.org.

National Drinking Water Week is May 5–11

The American Water Works Association (AWWA) organizes the annual National Drinking Water Week, which is **May 5–11** this year, and provides an opportunity for educators to share information and resources on drinking water. The following sources have educational resources that can be used for National Drinking Water Week:

- Take Care of Texas, an initiative of the Texas Commission on Environmental Quality, has many resources for educators and citizens.
- Water IQ, developed by the Texas Water Development Board, publishes a wide variety of water education resources.
- The Texas Water Resources Institute's Water Conservation Resources page provides science-based information and materials.
- AWWA National Drinking Water Week materials include posters and activity pages.

Riparian area grazing workshop set May 10 in Ennis



The Texas A&M AgriLife Extension Service will partner with several other agencies and entities to conduct a grazing workshop to focus on riparian areas **May 10** in Ennis.

"With most of the land in the Trinity River basin under cattle production, this workshop is designed especially for cattle producers who have creeks or rivers on their property," said **Blake Alldredge**, AgriLife Extension associate with the Texas A&M University Department of Wildlife and Fisheries.

The program will be from 8 a.m.–3:30 p.m. at the Cowboy Church of Ennis, located at 429 S.E. Interstate 45 Frontage Road south of Ennis.

"It's important for landowners to understand how these systems work and how to properly manage them," he said. "Good land stewardship in these areas can provide long-term sustainability and increased land productivity for landowners and have positive effects on the quality and quantity of water for both rural and urban populations."

Allredge said AgriLife Extension will be joined in the effort by The Texas Grazing Lands Conservation Initiative, the Institute of Renewable Natural Resources, the Texas Section Society for Range Management and the Natural Resources Conservation Service.

Allredge said riparian areas are transitional margins between uplands and streams where vegetation is strongly influenced by the presence of water.

"Basically, riparian areas are the band of more productive plant communities along creeks and rivers," he said. "They have important features that make them very valuable for landowners as well as downstream water users, yet their management is poorly understood. Our aim with this workshop is to raise awareness of riparian management among landowners and other water users for their mutual benefit."

Individual registration is \$10 and includes a barbecue lunch. The workshop is limited to the first 100 registrants, and an RSVP is required.

For more information and to RSVP contact Allredge balldredge@tamu.edu or 979.845.0916, or see the full [AgriLife TODAY article](#).

Ground Water Research and Education Foundation events coming to Grapevine

The [Ground Water Research and Education Foundation](#) is hosting the Stray Gas Incidence and Response Forum and the Unconventional Oil and Gas Water Management Forum, at the Gaylord Texan in Grapevine, **July 9–11**.

According to the foundation, the development of unconventional gas resources poses new challenges for the management and protection of water resources. The Unconventional Oil and Gas Water Management Forum will focus on the status of current regulations and the potential risks and challenges associated with safe-guarding and managing water resources in areas of shale-gas development.

Organizers say the Stray Gas Incidence and Response Forum is an opportunity for regulatory officials, industry, consultants and other interested parties in the region to learn, interact and develop recommendations that will improve protocols for response to the prevention of stray gas incidents.

The Texas Water Resources Institute and the Texas A&M Institute of Renewable Natural Resources are Event Partners for these foundation events. For more information, see www.gwpc.org/events.

Southwest Stream Restoration Conference coming to San Antonio

Resource Institute, Inc. is presenting the inaugural [Southwest Stream Restoration Conference](#) **May 28–30** at the Hyatt Regency Riverwalk in San Antonio.

The conference will provide an opportunity for natural resource professionals to share knowledge, experiences and innovations in stream restoration, according to organizers. It will include presentations, panel discussions, exhibits and professional networking focused on ecosystem and watershed restoration.

Dr. Kevin Wagner, Texas Water Resources Institute (TWRI) associate director, is leading the organization of a pre-conference workshop on riparian vegetation establishment, which will cover stream bank stabilization, overcoming challenges of riparian management and restoration and methods of establishment. TWRI has partnered with Resource Institute, Inc. to provide this conference.

For more information and registration, visit southweststream.org.

New Publications / Papers

New Extension publications

[Native Grassland Monitoring and Management](#), **Blake Alldredge, Larry Redmon, Megan Clayton, James Cathey**, Texas A&M AgriLife Extension Service, WF-001 , 2013.

New TWRI and IRNR publications

[Soil & Water Assessment Tool Input/Output Documentation Version 2012](#), **J. Arnold, J. Kiniry, R. Srinivasan, J. Williams, E. Haney, S. Neitsch**, TR-439, 2013.

[A range-wide survey of the endangered black-capped vireo in Texas](#), **T. M. McFarland, H. A. Mathewson, J. E. Groce, M. L. Morrison, R. N. Wilkins**, Southeastern Naturalist 12:41-60. 2013.

Natural Resources Training Courses

Watershed Modeling using LDC and SELECT	May 7–8
Social Media 101-Raising Stakeholder Awareness in an Information Age	May 15
Social Media 101-Raising Stakeholder Awareness in an Information Age	May 23
Texas Riparian & Stream Ecosystem Workshop, Lockhart	June 25

Newly Awarded TWRI/IRNR Projects

Ellison Creek Reservoir Polychlorinated Biphenyls (PCBs) Source Study

The project objective is to provide the information needed to determine the strategy for addressing the Ellison Creek Reservoir PCBs impairment. Located west of Lone Star, Texas, in southern Morris County, Ellison Creek Reservoir has a surface area of 1,516 acres and a capacity of 24,700 acre-feet. The reservoir was constructed in 1942–43 by the United States Defense Plant and was later acquired by the Lone Star Steel Company in 1947. The reservoir is also the site of a power plant operated by the Southwest Gas and Electric Company. Ellison Creek Reservoir has been listed on the Texas 303(d) list for PCBs in edible tissue and toxicity in sediment since 2006 and for copper in water since 2010.

Funded by: Texas Commission of Environmental Quality

Partners: Texas Water Resources Institute, Department of Wildlife and Fisheries Sciences

RAPID Collaborative Research: Post Sandy Linkages in Energy-Climate Discourse in the U.S.

The devastation and disruptions of Superstorm Sandy provide emerging linkages between the critical issues of energy infrastructure investments and climate change preparedness in the United States. The superstorm highlighted the vulnerability of energy systems including electricity infrastructure damage that resulted in power outages to 8.6 million customers and gasoline distribution challenges leading to severe gasoline shortages in New York and New Jersey. Superstorm Sandy also re-introduced climate change into the political discourse of the 2012 Presidential election. This grounded theory research will explore how Superstorm Sandy, a focusing event, is influencing energy discourse in the United States. The research is guided by two questions: (1) How is Superstorm Sandy and its aftermath influencing discourse among energy sector actors by linking energy infrastructure and climate change – two issues that are often kept separate? To what extent do these linkages between energy and climate discourse differ regionally (including regions not directly impacted by the storm)?

Funded by: National Science Foundation

Partners: Texas A&M Institute of Renewable Natural Resources, Department of Wildlife and Fisheries, Clark University, SUNY College of Environmental Science and Forestry, University of Minnesota

FY2013 Annual Application under Section 104 of the Water Resources Research Act of 1984, as amended

This project provides funds for program administration and information/technology transfer of the Texas Water Resources Institute. In addition, two water assistantship students are will be funded for projects dealing with invasive species and horizontal wells.

Funded by: U.S. Geological Survey

Partners: Texas Water Resources Institute, Department of Entomology, Department of Geology and Geophysics, Department of Wildlife and Fisheries, Water Conservation and Technology Center