JANUARY 2012

A new year, a new look

Notice something different? Formerly *New Waves*, this monthly newsletter is now *Conservation Matters* and has changed to better reflect the research and education efforts conducted by both the Texas Water Resources Institute and the Texas A&M Institute of Renewable Natural Resources, as well as water and natural resources news from other universities and organizations.

Conservation Matters is your connection to the latest research and educational outreach programs on land, water and wildlife in Texas and beyond state lines.

Dr. Neal Wilkins, director of the two institutes, said both institutes have historically been successful in carrying out their respective mandates to enhance water and natural resources in the state. “This new electronic newsletter will communicate these efforts as well as news from university faculties and agencies across the state and beyond,” Wilkins said.

News submissions or input on upcoming articles can be directed to **Leslie Lee**, *Conservation Matters* editor, at lhlee@tamu.edu or 979.862.7139.

Institute seeking chief water scientist

The Texas Water Resources Institute (TWRI) is seeking a chief water scientist to lead the institute’s water science program in addressing high priority water management needs in Texas and the south-central United States, according to the institute’s director.

“With water issues becoming the highest priority in Texas and across the region, TWRI is increasing our focus on collaborative programs with interdisciplinary teams of research partners within Texas AgriLife Research, the Texas A&M University System, and other state, national and international partners to address some of these issues,” said **Dr. Neal Wilkins**, TWRI’s director. “The water scientist will develop a research program leading directly to efficient management solutions for meeting future municipal water demands while sustaining agricultural and natural resource systems. This person will also participate in the development of advanced water technologies for agriculture, natural resources, industry, municipal water systems and specialty water uses.”

Wilkins said the scientist will also work with the Texas AgriLife Extension Service through programs that directly integrate AgriLife Extension education outcomes into water research efforts.

Additional agency and position information is available at twri.tamu.edu/waterscientist. Information and inquiries should be directed to waterjobs@tamu.edu. Nominations and applications will be accepted through Feb. 20 or until a suitable candidate is identified.

Edwards Aquifer plan will reconcile endangered species protection with stakeholder needs

The Edwards Aquifer Recovery Implementation Program (EARIP) has overcome the final hurdle in resolving a long-standing struggle to balance the protection of endangered species with water use in the Edwards Aquifer, according to the program’s coordinator.

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“The Edwards Aquifer Authority Board of Directors recently approved a funding and management agreement to implement a habitat conservation plan for the Edwards Aquifer,” said **Robert Gulley**, Texas A&M Institute of Renewable Natural Resources program coordinator for the EARIP. “The plan is focused on protecting threatened and endangered species whose only known habitats are the aquifer-fed Comal and San Marcos springs.”

At its **Dec. 13, 2011**, meeting the Edwards Aquifer Authority board approved the conservation plan, which was developed by the recovery implementation program stakeholder group over the past 4.5 years.

“The plan will protect the Edwards Aquifer, a major groundwater system in Texas serving approximately 2 million people, and contribute to a stable water supply for the region while protecting the endangered species,” Gulley said.

The EARIP is a collaborative, consensus-based stakeholder process coordinated through the Institute of Renewable Natural Resources.

According to the aquifer authority, the funding and management agreement details how its organization, with participation from the cities of New Braunfels, San Marcos and San Antonio through the San Antonio Water System (SAWS), along with Texas State University in San Marcos, will pay for implementing the conservation plan.

“The plan marks the first time that area stakeholders have reached a consensus resolution to the regional conflicts between species protection and Edwards Aquifer pumping that have existed for decades,” Gulley said.

Stakeholders include water utilities, cities, groundwater conservation districts, agricultural users, industrial users, environmental organizations, individuals, river authorities, downstream and coastal communities, and state and federal agencies.

Gulley added that conflict related to aquifer water use has been ongoing for about 50 years and the plan’s approval by the aquifer authority “marks the final chapter in that dispute.”

“As a result, the region will now have certainty about its use of the aquifer, control of the aquifer and the aquifer will be managed at a regional level rather than by the federal government,” he said.

The Texas Legislature tasked the EARIP with the development of a plan to help recovery of the federally protected species by September 2012. According to Gulley, under state law the Edwards Aquifer Authority must implement a program by **Dec. 31, 2012** to ensure that continuous minimum output of the Comal and San Marcos springs are maintained to protect listed species as required by federal law. The habitat conservation plan and supporting documents will be submitted to the U.S. Fish and Wildlife Service for approval.

Gulley said he anticipates the Fish and Wildlife Service will make a decision whether to approve the plan by fall 2012.

“The approval of the habitat protection plan will help protect the region from litigation under the Endangered Species Act and will bring unprecedented certainty to Edwards groundwater rights for as long as the plan is in effect,” he said.

Gulley said implementing the plan will cost an estimated $18.6 million annually and, as a result, there will be an increase in aquifer management fees.

“The two major projects in the plan are paying farmers who sign up for a voluntary irrigation suspension program and placing additional water in the SAWS Aquifer Storage and Recovery facility in the Carrizo Aquifer,” Gulley said. “Many other measures, including habitat improvements in the Comal and San Marcos springs, municipal conservation programs and a Stage 5 pumping cutback as a last resort, are in the plan.”

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He added that further study over the next seven years will determine whether these measures are sufficient to protect the listed species, and, if not, what additional methods would be most effective.

For more information visit the EARIP website at earip.org.

2012 Water Resources National Competitive Grant announced

The Texas Water Resources Institute announces the Request for Proposals for the FY 2012 National Competitive Grant Program by the U.S. Geological Survey in cooperation with the National Institutes for Water Resources (NIWR).

Proposals must be filed online at niwr.net by 3:00 p.m. on **Feb. 23**. The proposals will then be approved for submission to the National Competitive Grants Program by the Texas Water Resources Institute by **March 8**.

Proposals are requested on the topics of improving and enhancing the nation's water supply, including (but not limited to) enhancement of water supply infrastructure, development of drought impact indicators, evaluation of the dynamics of extreme hydrological events and associated costs, development of methods for better estimation of the physical and economic supply of water, integrated management of ground and surface waters, the resilience of public water supplies and the evaluation of conservation practices. Proposals are sought in not only the physical dimensions of supply, but also the role of economics and institutions in water supply and in coping with extreme hydrologic conditions. Further information on these priority research issues is in the attached RFP.

Proposals may be for projects of 1 to 3 years in duration (discrete 12-month budget periods required) and may request up to $250,000 in federal funds. Proposals require a 1:1 match, thus successful applicants must match each dollar of the federal grant with one dollar from non-federal sources. Federal funds may not be used to pay for indirect costs, but matching funds can be used for indirect costs. To fulfill part of the matching requirement, the applicant's negotiated indirect cost rate may be applied to both federal and non-federal direct costs. The indirect cost rate may not be applied to tuition and equipment costs.

More information is available at twri.tamu.edu/usgs-104g, and a copy of the RFP is also available at niwr.net/competitive_grants/RFP. Additional information about proposal content, format, review process and registration with the NIWR system is available in the RFP.

Questions regarding this grant program can be directed to **Danielle Kalisek** at dmkalisek@tamu.edu or 979.845.2781.

Prescribed burn alliance forms after record-breaking wildfire season

The Texas A&M Institute of Renewable Natural Resources, Texas AgriLife Research and the Texas AgriLife Extension Service recently assisted prescribed burn associations throughout Texas in a historic formation of a statewide Prescribed Burn Alliance of Texas to safely increase the use of prescribed burning, according to the institute's associate director.

Roel Lopez said prescribed burning, or the controlled application of fire to the naturally occurring build-up of fuels in a predetermined area, has been used for years to improve and manage forests and rangelands, improve wildlife habitat and reduce the risk of devastating wildfires.

"This statewide alliance, composed of 11 prescribed burn associations, is particularly important after the record-breaking wildfire season Texas just had," he said. "Texas reported over 30,000 wildfires with nearly 4 million acres burned. More than 2,000 homes and an additional 2,000 other types of structures were lost."

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Larry Joe Doherty, the alliance's new president, said the alliance will promote education and training and increase the practice of safe prescribed burn techniques.

"Prescribed burning techniques safely applied can reduce the dangers of fuel build-ups that lead to the terror of wildfires and its destructive forces," Doherty said. "At the same time we are honoring our duties as good land stewards by improving wildlife habitat and agricultural production."

Jim Kenton, the alliance's vice president, said the alliance will work collaboratively with private landowners, county governments, federal and state agencies, and natural resource organizations to foster the acceptance and use of prescribed burning in Texas.

"Many of the devastating fires were especially dangerous because volatile fuels had been allowed to accumulate in forests and rangelands," Kenton said.

Before the alliance, the 11 prescribed burn associations, which are usually non-profits owned and operated by more than 1,000 private landowners, worked mostly on their own, Doherty said. "Without uniformity in training and using privately purchased fire equipment, they assisted their neighbors in safely conducting prescribed burns," he said.

Susan Durham, the South Texas Prescribed Burn Association president, encouraged landowners to organize a prescribed burn association and join the alliance. "The South Texas Prescribed Burn Association recently reorganized along with neighboring prescribed burn associations and reached out to the experts organizing the Texas Alliance of Prescribed Burn Association for assistance," Durham said. "We found an overwhelming response from them all, offering whatever resources we needed."

Lopez said the institute, AgriLife Research and AgriLife Extension received a grant funded through the USDA's Natural Resources Conservation Service Conservation Innovation Grant to help form the alliance. Funds also were used to design and develop a prescribed fire website to serve the burn associations and to develop web-based training for individuals to attain burning certification. The Prescribed Fire Portal is pfire.tamu.edu.

"Many private landowners understand the benefits of prescribed fire but lack the experience or confidence to frequently apply prescribed burns," Lopez said, about the need for training.

Alliance officers are Doherty, president; Kenton, vice president; **Dave Redden**, secretary; and **Stan Graff**, treasurer.

For more information on the alliance and to learn more about the benefits of prescribed fire, visit pfire.tamu.edu.

Seminar to help conservation scientists take advantage of social media

Science may be the last thing that comes to mind when considering the growing use of social media, but with the latest research showing that fully 65 percent of adult internet users frequent social networking sites, Texas AgriLife Extension Service personnel are helping researchers embrace social media as an opportunity to communicate their work.

On **Feb. 13** at the College Station Convention Center, 1300 George Bush Drive in College Station, the Conservation Science and Social Media seminar will introduce researchers to using social networks to share their work in the digital age.

"Science and research organizations have to learn to competefor consumers' attention in today's online world," said **Amy Hays**, Texas AgriLife Extension emerging technologies specialist with the Texas A&M Institute of Renewable Natural Resources. "This seminar will provide conservation scientists with guidance on how to use social media to turn science into effective advocacy."

The short workshop will be from 9 a.m. to 4 p.m. and will present case studies, discussions and strategies to help elevate the role of science in online conversations. Participants will learn the new roles that scientists can take online and will hear ideas about how to turn online conservation advocacy into action, Hays said.

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Registration is available at agriliferegister.tamu.edu/events and is $35 if paid before **Feb. 7** and $45 after **Feb. 7** or onsite. Lunch is included in the registration fee. Parking is limited at the conference center. A shuttle will load at the Centeq Building in Research Park, located at 1500 Research Parkway, at 8:30 a.m. and will take participants to and from the conference center. Parking at the Centeq Building is free.

For more information about the event, contact Hays at ahays@ag.tamu.edu or 254.865.2061. For questions about registration or payment, contact Extension Conference Services at agriliferegister@tamu.edu or 979.845.2604.

Expertise just a click away thanks to eXtension Ask an Expert program

By Laura Bentz

“Is a gherkin simply a small pickling cucumber?”

“Do Rocky Mountain horses tend to be slightly cow hocked?”

“Where can I send a hay sample for nutritional analysis in New Mexico?”

The answers to these questions and many more can be found on extension.org and are provided through a program known as Ask an Expert.

In 2008, the Ask an Expert program was created by eXtension to provide its users with competent, thorough information from experts across a wide variety of subject areas.

According to extension.org, “eXtension is an interactive learning environment delivering the best, most researched knowledge from the smartest land-grant university minds across America.”

The eXtension website contains articles on many topics, ranging from family caregiving to oil spills to pest management. While researchers, students or other university-related personnel can use this site, the information is designed for the public.

Despite the large number of articles available, users may find that they are still unable to locate the answer to a particular question they might have. That is when Ask an Expert can prove valuable. This program allows users to submit questions to be directly answered by a specialist or expert.

Craig Wood, associate director for eXtension Initiative, explained that when a user submits a question, he or she is first directed to a site bringing up related questions and answers. If the person finds the answer there, the question is not directed to an expert. If the answer cannot be found, the user can submit the question and it is filtered by a computer system to a specialist or expert, based on location and content.

“It works very well on that (filtering questions to the correct expert), particularly if the user selects a category,” said Wood. “If the system can’t figure it out, we have a human interface that comes in behind it and gets that question to the right person.”

The human interfaces, known as question wranglers, filter the questions similar to the way in which the system does, by matching the field of expertise with an expert that is in a similar geographic area.

When an expert receives the question and provides a response, the process is still not over.

“So the user gets their answer back through an email from the expert. And if they need to do some follow-up at all they have the ability to follow up, ask additional questions, ask for clarification, so there’s a dialogue that takes place between the person submitting the question and the expert that’s answered it,” Wood said.

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According to Wood, this program has been gaining popularity since its introduction in 2008. On average, about 25 questions are received a day. Wood also explained that 8,000-10,000 experts are available to answer questions, coming from 65 Communities of Practice, as well as some county agents and other individuals.

Because of the popularity of the program, Wood said that a widget has been created for the Ask an Expert program, which is a graphical interface that people can add to their website. Users can then submit questions through the widget to be answered by experts from that website. Currently, there are 584 Ask an Expert widgets.

“I would just encourage everybody across the board (to use Ask an Expert). Because we touch a lot of different subject areas, almost any subject area that somebody would be interested in, we can route the question to an expert that can give them an answer,” Wood said.

And, in case you are wondering about that first question, the answer is no. According to the expert, while related, gherkin is not simply a small pickling cucumber.

Upcoming Forest Service events to help landowners recover from drought

The Texas Forest Service is holding two events in February aimed at assisting landowners trying to recover from the ongoing drought and its impact on forestry impact.

East Texas landowners are invited to a Drought Symposium on **Feb. 8**, from 8:30 a.m. to 3 p.m. at the Lottie and Arthur Temple Civic Center, 601 Dennis St., Diboll, Texas. The Drought Symposium will focus on general impacts from the 2011 drought, as well as forest health issues, tree mortality assessments, silviculture recommendations, market and climate trends and federal assistance programs, and predictions for the 2012 fire season.

“This is geared toward landowners who are dealing with the issue of tree mortality,” said **Shane Harrington**, Texas Forest Service forester and Farm Bill coordinator, explaining that the seminar would include sessions on tree salvaging and precautions for landowners interested in replanting. “If you need advice on how to best manage your property throughout the drought, this symposium is for you.”

RSVP for the Drought Symposium to Harrington at sharrington@tfs.tamu.edu by **Feb. 3**. Lunch is provided with reservation. See the full news release for more information.

The Forest Service also is offering a 2012 Timber Income and Property Tax Workshop on **Feb. 17** in Diboll. New timber tax laws could allow landowners to recoup some of the losses they sustained from the relentless drought and devastating wildfire season that plagued Texas during the last year.

The federal rules geared toward landowners who experienced a significant timber loss will be explained during the all-day tax workshop, which is designed to give landowners—as well as the professionals who prepare their taxes—a leg up when it comes to forest management planning.

“Tax laws are complicated, especially those specific to forestry,” said **Yanshu Li**, a forest economist with Texas Forest Service. “Often, tax preparers aren’t even well-versed in the laws. As a result, many landowners continue to pay more than their fair share of taxes on their timber income.”

The workshop is scheduled for 8 a.m. to 5 p.m., also at the Lottie and Arthur Temple Civic Center. Registration is $70 and includes lunch and a workbook. Topics will be focused on changes to state taxes for timber producers and contract lumberjacks.

For more information or to register, visit texasforestservice.tamu.edu/timbertaxworkshop, or contact Texas Forest Service staff assistant **Monica Jadlowski** at mjadlowski@tfs.tamu.edu.

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Free soil analysis program for producers in Lower Rio Grande Valley

Farmers in Hidalgo, Cameron and Willacy counties are encouraged to take part in a free soil testing program to help the environment and their bottom lines, according to officials with the Texas AgriLife Extension Service.

“Our soil testing program has been very successful for many years now in helping growers know exactly how much residual fertilizer is already in the ground,” said Donnie Valdez, a longtime grower in the Weslaco area and an AgriLife Extension specialist.

“By knowing how much fertilizer is in the soil, many growers have been able to cut down on the fertilizer they apply, which can amount to a huge cost savings, especially with rising fertilizer prices,” he said.

The program started in October and will extend through the spring, Valdez said.

“Producers can obtain a soil sampling kit from their AgriLife Extension county office and return their samples for shipping to the Texas A&M Soil Testing Laboratory in College Station. The analysis is free and results are mailed directly to the grower,” he said.

The soil analysis takes the guesswork out of nutrient management, according to **Brad Cowan**, an AgriLife Extension agent in Hidalgo County.

“The results of the soil test will tell a grower exactly what nutrients are in the soil so they can pay only for the nutrients needed to meet their crop yield goals,” he said.

Improper rates, timing or application of fertilizer nutrients can actually reduce crop yields and impair water quality via runoff, Cowan said.

“It just makes good sense to know the nutrient makeup of your soil before you add more nutrients,” he said.

Proper nutrient amounts and placement aid in the reduction of nonpoint source pollution into the Arroyo Colorado, an important waterway in the Lower Rio Grande Valley, Valdez said.

“The Arroyo is critical to drainage in the Valley,” he said. “Its watershed covers portions of Hidalgo, Cameron and Willacy counties, home to more than 1 million people, according to census reports.”

The free soil testing campaign is made possible by funding from the Texas State Soil and Water Conservation Board, and administered through the Texas Water Resource Institute and AgriLife Extension.

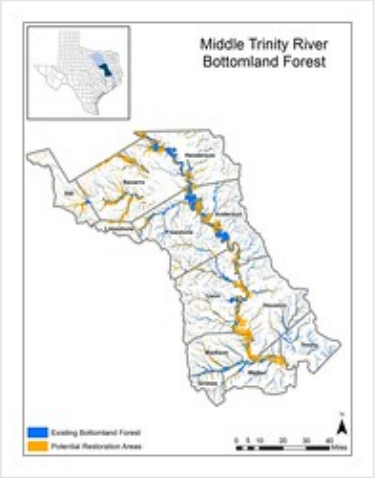
For more information about the Arroyo Colorado watershed, visit arroyocolorado.org. For more information about the soil testing program, contact the AgriLife Extension county office in Hidalgo, Cameron or Willacy counties.

Improved free online mapping tool will help Trinity River basin stakeholders

The Texas A&M Institute of Renewable Natural Resources in College Station recently released an upgraded version of its free Trinity River Information Management System (TRIMS), an online mapping tool for stakeholders within the Trinity River Basin.

The upgraded information management tool can be accessed at trims.tamu.edu.

According to developers, the information system was created as part of the Building Partnerships for Cooperative Conservation in the Trinity River Basin project, funded by the Texas State Soil and Water Conservation Board through a Clean Wate



grant from the U.S. Environmental Protection Agency. It was developed as a means of helping stakeholders make informed conservation and habitat-restoration decisions within the basin.

“TRIMS provides access to the latest aerial photographs and information such as elevation, soils data, hydrology, land use, vegetation cover type and more,” said **Amy Snelgrove**, a geospatial technology manager with the institute. “This data provides the information necessary for conservation and restoration projects within the basin, particularly native grassland and wetland restoration, and bottomland hardwood establishment.”

TRIMS has been upgraded for use by stakeholders in making informed land-management decisions. Snelgrove said updates to the system included rebuilding the site’s home page and “moving the mapping application to a newer technology.”

For the many livestock and crop producers in the Trinity River Basin, the mapping tool can also provide tremendous benefits for land management, said **Blake Alldredge**, AgriLife Extension associate and education and outreach coordinator for the middle Trinity River project.

“For example, simple measurements of pasture acreage or fence-line length can be accomplished in TRIMS to help ranchers determine an appropriate stocking rate or rotational system for livestock,” Alldredge said.

Through the middle Trinity River project, Alldredge said stakeholders hope to achieve the goal of restoring and conserving wildlife habitat and improving the water resources of the basin.

“We can assist toward that goal by providing landowners with conservation planning information and tools to enhance restoration efforts throughout the basin,” Alldredge said. “TRIMS is a practical and useful tool that can be used to help reach that goal.”

Alldredge noted that a long history of water quality problems and increasing demand have led the state to place a high priority on the restoration of the Trinity River as nearly 8 million people depend on it for their water needs, including residents of Dallas, Fort Worth and Houston.

Habitat loss throughout the Trinity River basin has been extensive, he added.

“Agricultural development and encroachment from urban areas have converted native habitats and resulted in a dramatic decline in wildlife populations, such as quail,” he said. “Native grasslands, for example, are believed to occupy only 1 percent of their former range within the basin.”

Habitat protection and restoration is one of the issues being addressed by a partnership project to benefit stakeholders in the Trinity River basin.

The most efficient and least expensive way to improve the water resources of the basin is to restore native habitats, he said.

“Native habitats allow water to infiltrate into the ground by slowing runoff and reducing erosion, and then purifying the water by natural means,” he said. “This natural process prevents excess amounts of sediment from filling Texas lakes and the need to build new wastewater treatment plants.”

He said improving native habitat also benefits landowners by bringing additional income through increased hunting, fishing and ecotourism opportunities.

“There are many environmental and economic reasons for protecting and restoring native habitats,” he said. “We hope stakeholders in the basin will take advantage of using TRIMS and will benefit from the upgrades made to this tool as they weigh their land-management decisions.”

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Workshops are being planned in order to conduct hands-on training with the Trinity River Information Management System. For more information on workshops, go to the Events page at trinitywaters.org.

TWDB requests research topics

The Texas Water Development Board (TWDB) is soliciting input on ideas for research topics relating to the conservation and development of the state's water resources

As directed by the Texas Water Code, the research must be related to the conservation and development of water resources. According to the Texas Administrative Code, Title 31, Chapter 355, any person may apply for research grants. Generally, the research topics should address practical problems and not be duplicative of previously completed or ongoing research.

In recent years, TWDB has funded research on issues related to:

- Advancing water reuse in Texas
- Assessing global climate models for water resources planning applications
- Mining and oil and gas water use
- Assessing aquifer storage and recovery in Texas
- Texas water system map: the compilation of a statewide Geodataset and digital maps of water service area boundaries
- Standardizing measures of long-term water conservation implementation and short-term drought contingency plan implementation in Texas (for purposes of reliably tracking, comparing, and aggregating water savings locally and statewide)
- Unified costing tool for regional water planning;
- Developing practical alternatives to pilot plant studies for innovative water technologies
- Evaluation of Natural Resources Conservation Service flood and sediment control structure conditions to better estimate erosion rates
- Lifetime cost/benefit assessment of natural channel design versus traditional stormwater infrastructure
- Establishing a subdivision-scale rainwater harvesting system

More information is available online. Suggestions regarding potential research topics should include a brief explanation of why it is needed, what questions will be answered, who will benefit, and the estimated cost of the research. The deadline for topic suggestions is **March 1**; suggestions should be directed to **Angela Freytag** at atangela.freytag@twdb.state.tx.us or 512.463.5201.

New Publications/Papers and Training Courses

Methodologies for Analyzing Impact of Urbanization on Irrigation Districts, **G. Bonaiti, G. Fipps**, Texas Water Resources Institute, TR-419

The region of Texas along the Mexican border has been experiencing rapid urban growth. This has caused fragmentation of many irrigation districts who are struggling to address the resulting challenges. In this paper, we analyze the growth of urban area and its impact on water distribution networks in three Texas border counties over the ten year period, 1996 to 2006. In particular, we discuss alternative procedures to assess such impacts, and we evaluate their effectiveness in identifying critical areas.

Evaluation of the CRITERIA Irrigation Scheme Soil Water Balance Model in Texas, **G. Bonaiti, G. Fipps**, Texas Water Resources Institute, TR-418

The CRITERIA model was created in the 1990s in Italy, and is based on the soil water balance computation procedures developed at the Wageningen University in the Netherlands in the 1980s. CRITERIA has been used as an analysis and regional planning tool (e.g seasonal crop yield and water use predictions, impact of climate change scenarios), and is curren

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Northern Italy to update the regional water balance on a weekly base. The model can handle a multilayered soils and computes daily average values related to the soil water balance (actual evaporation and transpiration, water flow between layers, deep percolation, surface runoff, and subsurface runoff). Automatic algorithms allow for calculation and scaling of data which may not be available such as detailed meteorological data and soil-water properties. Outputs can be readily used in a Geographic Information System (GIS). The required inputs are precipitation, air temperature, soil texture, and crop management data (planting and harvesting dates, irrigation method and applied volumes). The model allows for input of additional data such as actual ET, soil conductivity, and soil-water characteristics. If this data is not available, the model can estimate them. The model requires calibration using a combination of measured soil moisture and actual ET.

A Progress Report for the Arroyo Colorado Watershed Protection Plan, **T.A. Berthold and J. Flores**, Texas Water Resources Institute, TR-413

The Arroyo Colorado (AC) is located in the Lower Rio Grande Valley of South Texas and flows through the middle of Hidalgo and Cameron counties. The lower 16 miles of the AC form the boundary between Cameron and Willacy counties. The AC drainage area is a sub-watershed of the Nueces-Rio Grande Coastal Basin, also known as the Lower Laguna Madre Watershed.

Arroyo Colorado Watershed Protection Plan Implementation Project Final Report, **T.A. Berthold, J. Flores**, Texas Water Resources Institute, TR-411

The Arroyo Colorado (AC) is an ancient channel of the Rio Grande that extends eastward for about 90 miles from near the city of Mission, Texas through southern Hidalgo County to the city of Harlingen in Cameron County, eventually discharging into the Laguna Madre near the Cameron-Willacy County line. Since 1996, the AC has been impaired for low dissolved oxygen (DO) levels within the tidal segment; not meeting the aquatic life use designated by the State of Texas and described in the Water Quality Standards. In addition, bacteria has always been a parameter of concern and as of 2006, the AC became impaired due to elevated levels.

The Pond Destroyers: Common and Giant Salvinia, **L. Gregory, M. Masser**, Texas Water Resources Institute, EM 109

Salvinias are non-native, floating aquatic ferns. There are two species of salvinia in Texas, common salvinia (Salvinia minima) and giant salvinia (Salvinia molesta). While giant salvinia has been called the worst or most invasive aquatic plant in the world, common salvinia is also very invasive and problematic. Both salvinias can double in size within a week or less with good summer growing conditions. The salvinias are native to South America and were imported into the United States by the water garden and aquarium industries. Common salvinia was first noted in Texas in 1992 and giant salvinia in 1998. Since then the salvinias have covered tens of thousands of acres of public and private waters in Texas.

Estimating the distribution and abundance of the black-capped vireo in Texas, **T. M. McFarland, H. A. Mathewson, M. L. Morrison, R. T. Snelgrove, J. E. Groce, K. Skow, B. A. Collier, R. N. Wilkins**, Texas A&M Institute of Renewable Natural Resources, RR-1

We present here the largest and most comprehensive study of the black-capped vireo (Vireo atricapilla) in Texas using an appropriate study design. The goals of our research were to (1) gather data to determine the distribution of black-capped vireos throughout their range in Texas, (2) evaluate topographic, climatic, and vegetative factors driving the distribution of vireos, (3) determine how vireos distribute themselves locally and whether they are clustering on the landscape, (4) determine what habitat characteristics describe local population abundance, (5) use those data to develop a distribution model that estimates probability of vireo occurrence based on landscape and vegetative characteristics and (6) validate this distribution model using an independent dataset. From this research, we have developed a decision-support tool that allows a user to quickly determine the occupancy probability of an area based on several user-defined metrics, providing a user-friendly interface to our predictive occupancy models.

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TWRI and IRNR Training Courses

Conservation Science Social Media	Feb. 13
2012 Bacterial Source Tracking - State of the Science Conference	Feb. 28–29
Introduction to ArcGIS 10	March 27–28
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Conservation Matters publishes timely information about water and natural resources news and research at universities and organizations in Texas. If you have information for possible inclusion in *Conservation Matters*, please contact Kathy Wythe at kwythe@tamu.edu. All submissions may be edited for grammar and style.

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