Texas Forest Service

November 2004

FOREST STEWARDSHIP BRIEFINGS

Timber ◊ Wildlife ◊ Water Quality ◊ Soil Conservation ◊ Best Management Practices ◊ Recreation ◊ Aesthetics

TEXAS GROUNDWATER/LIQUID GOLD

by Lee A. Flannery, District Forester, Texas Forest Service, Marshall, TX

For more information:

- http://texaswater.tamu.edu
- http://ga.water.usgs.gov/edu/mearth.html

Note:

A team of water experts from Texas A&M University has won the Blue Ribbon Award from the American Society of Agricultural Engineers for their Texas Water Resources Education web site. Located at http://texaswater.tamu.edu, the site was recognized as the top web page. Blue Ribbon awards are given for outstanding videotapes, CDs, web pages and printed manuals, bulletins and fact sheets.

INSIDE THIS ISSUE:

Recently, a one-day workshop regarding groundwater was held in various locations across the state. The seminar was designed to help individuals understand potential legal, scientific and economic considerations dealing with groundwater marketing, sales and leasing.

Large cities and other interests are seeking water sources in many areas across the state. With recent high opposition to construction of large surface water reservoirs, groundwater resources (aquifers) are prime targets. Groundwater is inexpensive, high in quality and very reliable in some areas. Leasing of groundwater rights is already occurring in many areas of the state and is highly likely in other areas in the near future. Groundwater marketing is in its infancy in East Texas due to an abundance of surface water, but things appear to be changing quickly with the establishment of many new groundwater conservation districts (GCDs).

San Antonio is an excellent example for other large cities to follow when it comes to water rights transactions. Planners there obviously prefer that the land stay in private ownership for taxation purposes, but when it comes to negotiations, they are typically looking at or for the following: fair price; ownership/long term production rights; ownership of facilities; sustainable production; feasibility/due diligence period; minimum production/minimum payment provisions; annual payments; easements; and terms/termination of contract.

Very few people really understand what aquifers are or how they work. Landowners in all areas of the state need better education on the topic to level the playing field in negotiations and to completely understand how the use of these groundwater resources may affect them. Many of these owners, if not adequately prepared, may lose out on a good opportunity. From the landowner's perspective, everything is negotiable in the contract but their neighbor could easily undercut them and drain them at the same time.

Aquifers overlap into other states and counties, across landowner boundaries, etc., so there is a large amount of political controversy involved and more pressure on counties to form groundwater conservation districts to regulate, and they are. There is very high potential for the "rule of capture" to be reversed on a statewide level without local regulation. [Groundwater is governed by the rule of capture, which grants landowners the right to capture the water beneath their property. The landowners do not own the water but have a right only to pump and capture whatever water is available, regardless of the effects of that pumping on neighboring wells.] However, until GCDs are established in areas where they are lacking, no one really knows what they are buying and won't likely invest.

Given the complexity of groundwater issues, state regulation may be needed to provide the necessary resources and oversight of our groundwater use. Everything is still subject to change based on legislation and litigation. Whether you are for local or state regulation, groundwater and groundwater issues are quickly drawing the attention of many Texans.

Protecting Fresh Water Supplies

from National Science Foundation press release, Sept. 13, 2004; Cheryl Dybas, NSF, media contact

For more information:

- http://www.nsf.gov/od/lpa/newsroom/pr.cfm?ni=15000000000123
- http://www.forestrycenter.org/news/news.cfm?news_id=535
- http://www.forestrycenter.org

A team of researchers led by scientists from the Stroud Water Research Center in Avondale, PA, has discovered that streamside (or riparian) forests play a critical role in protecting the world's fresh water.

"Policies aimed at providing sufficient and clean fresh water have historically focused on massive and expensive engineering projects, such as dams and filtration plants," said scientist Bernard Sweeney of the Stroud Center. "In doing so, they have often overlooked the substantial benefits that natural ecosystems provide."

"This study has revealed new dimensions of the ecosystem services that forests and small streams provide," says Penny Firth, program director in the National Science Foundation's division of environmental biology, which funded the research. "It clearly shows that a comprehensive understanding of ecological patterns and processes is key to forecasting as well as maximizing benefits."

For some time, scientists and policy makers have recognized the role that riparian forests play in filtering pollutants before they enter the stream. This new research shows that such forests also play a vital role in protecting the health of the stream itself by enhancing the ability of its ecosystem to process organic matter and pollutants such as nitrogen.

In their study of 16 streams in eastern North America, the scientists found that stream sections flowing through forested areas are wider and shallower than those in meadowlands, their beds are rougher and have more habitat, and water moves more slowly through them. Those factors, along with other riparian forest benefits such as a greater variety of organic food and more natural temperature patterns, produce a richer and more natural ecosystem than do deforested streams, and the increased abundance of bacteria, algae, invertebrates and fish enables them to better process certain pollutants.

Because the study was conducted on small streams, which comprise more than 90 percent of all streams in the United States, the implications for improving water quality by planting trees along stream banks are enormous. Forested streams will deliver cleaner water to downstream rivers, estuaries and, ultimately, oceans.

Butterflies, Orchids and Streamside Zones

by Dick Pike, Liaison to the National Forests in Texas, Texas Parks & Wildlife Dept., Lufkin, TX

For more information:

- http://www.npwr.usgs.gov/resource/distr/lepid/bflyusa/usa/710.htm

Orange fringed orchids were the photo target for the day on the Angelina National Forest. A group of photographers found the orchids (*Platanthera ciliaris* or *Habenaria ciliaris*) in bloom in the spring seeps near pitcher plant bogs. Their habitat is a good example of the results of a Best Management Practice, the streamside management zone (SMZ). This site was on National Forest land and has not been totally harvested for decades. Still it shows what can be found in a buffer zone such as this. The orchids were blooming in sparse groups under partial to deep shade on moist soils in the company of ferns and other moist soil plants. When in bloom they are very evident, but when not blooming, their grass-like leaves disappear into the other grass or grass-likes. Blooming probably started in July.

While in the same general area, a Palamedes swallowtail (*Pterourus palamedes*) was photographed. This is one of East Texas' largest butterflies. Its base color is a dark chocolate brown having yellow stripes with a little blue and red to enrich the color contrast. This butterfly occurs in habaitats containing sweetbay magnolia and redbay. These plants are found in spring seep drains and very few Palamedes will be seen in dependably viewable numbers when this habitat is not protected by a streamside management zone.

New Aphid Pest on Hackberry

The Asian wooly hackberry aphid, *Shivaphis celti*, was first recorded from Florida in 1997 and in south Texas in 2002. But in an impressive display of this new pest's ability to spread, it has appeared in large numbers on hackberry trees throughout north Texas this summer. Entomologists have also reported heavy populations in the upper Texas Coastal Bend area since July.

The Asian wooly hackberry aphid is only 2 to 2.5 mm long, and usually covered with a bluish-white wax. The infestation is obvious on the undersides of infested leaves, as the aphids resemble small tufts of cottony wax. They are found exclusively on the leaves of hackberry trees, *Celtis* species, including the common native sugarberry.

According to entomologists from the Florida Department of Agriculture, all adults in the summer are female and produce offspring without mating. These adults may be winged or wingless. In the fall, winged males and wingless females mate to produce eggs that can successfully survive the winter.

Although tree damage has not been reported to be a problem in other parts of the country where this pest occurs, the main complaint about these aphids is the copious amount of sugary excretions produced by the aphids. This sticky material, called honeydew, is often followed by the growth of a black mold called sooty mold. Everything under infested hackberry trees, including cars, picnic tables, sidewalks, houses, and plants, is often covered with sooty mold.

A strong spray of water may be enough to rinse away the water-soluble honeydew. Smaller trees may be effectively treated with insecticide soap. The soap will also help wash away the sticky substance. However, because soap must contact every aphid that it kills, this control measure may have little effect on large infestations or in taller trees where it is difficult to spray every leaf.

Only trees where the honeydew is aesthetically objectionable need treatment. In addition to soap, effective insecticides include horticultural oil, malathion, acephate and imidacloprid. Soil-applied systemic insecticides may require several weeks to months to translocate to the leaves where these aphids feed. Foliar-applied insecticides should provide the fastest control.

by Michael Merchant, PhD, Urban Entomologist, Texas Cooperative Extension, Dallas, TX

For more information:

- Michael Merchant, m-merchant@tamu.edu
- University of California control recommendations: http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn74111.html
- Images and biological descriptions from University of Florida Circular 392: http://www.doacs.state.fl.us/pi/enpp/ento/entcirc/Entcirc392.pdf

Master Wildlifer Course Offered

Master Wildlifer is designed for landowners and land managers who are interested in including wildlife considerations into their current management scenarios. The Master Wildlifer course will be broadcast live over satellite from Clemson University's studio to sites across the country.

In Texas, Texas Cooperative Extension will host the course at 4 live locations (tentative depending upon the number of registrants): **Overton**-TAMU Ag Research and Extension Center; **Longview**-Gregg County Extension Office; **Nacogdoches**-Public Library; **Dallas**-TAMU Ag Research and Extension Center. The program will also be streamed via the Internet during the time of broadcast. Participants will be able to send in questions by email or phone.

Topics include management of small game, white-tailed deer, turkey and fish ponds; managing wetlands for waterfowl and other wildlife; and income opportunities from wildlife on privatelands.

Total cost for 7, 3-hour Tuesday night programs plus 1, 8-hour capstone tour is $120.00. This includes almost 30 hours of contact time, notebook, wildlife book, certificate, cap and refreshments.

by Eric Taylor, PhD, Extension Specialist in Forestry, Texas Cooperative Extension, Overton, TX

For more information:

- http://extensionforestry.tamu.edu
- http://masterwildlifer.org/coordinatorresources.htm

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The Texas Forest Service is an Affirmative Action/Equal Opportunity Employer committed to Excellence through Diversity.

Upcoming Events

November 20 *Harris County Forest Landowners Association Annual Meeting,* Bear Creek, Houston, TX; 10:00 a.m. to 1:00 p.m. State Forester, James Hull with the Texas Forest Service, will be the keynote speaker. RSVP and directions: Robin, Texas Forest Service, (936) 273-2261; or Sandra at matejich_1999@yahoo.com.

November 20 *Rusk/Smith County Forest Landowners Fall Meeting.* Texas Agriculture Research and Extension Center, 1710 North Hwy. 3053, Overton, Texas; 8:30 a.m. to 12 p.m. Presentations on timber appraisal, taxation, and marketing concerns. Contact: Ray Hartenstein, judray@tyler.net.

December 16 *Pesticide Education and Recertification for Forest Ecosystems Training (PERFEcT),* Texas Agriculture Research and Extension Center, 1710 North Hwy. 3053, Overton, Texas; 8:30 a.m. to 3:30 p.m. This workshop is designed for foresters, natural resource managers, herbicide applicators, and others concerned with developing and implementing safe and effective vegetation management programs. Continuing Educations Units are available. Fee: $50.00 ($15.00 for TAMU System employees); includes lunch, refreshments, instructional materials. Regisiter online at http://www.peopleware.net/1542a or call (903) 834-6191 (Crystal) or (979) 845-1351 (Irma).

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