Edwards Aquifer Research and Data Center

SOUTHWEST TEXAS STATE UNIVERSITY

Texas State University SAN MARCOS

Newsletter **Fall–Winter 2002-2003**

The Texas Legislature established the Edwards Aquifer Research and Data Center in 1979. EARDC's mission is to promote the study, understanding and use of the Edwards Aquifer.

EARDC Staff

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…….Glennette Reid
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EARDC activities are organized around a Technical Services Center, an Education Center, a Research Center and a Data Center.

Technical Services Center activities:

The biomonitoring lab team participates in a Texas Department of Transportation (Tx DOT) investigation to evaluate the toxicity of highway runoff to US EPA target test organisms and the fountain darter (*Etheostoma fonticola*). Phase I of the investigation compares runoff from a Tx DOT highway bridge construction site over the San Marcos River with a control site sampled during a non-rain event and during a rain event. Phase II, to be conducted later this year, will also compare the effectiveness of detention ponds to filter stormwater runoff from the construction site.

The biomonitoring lab cooperates with the US Fish and Wildlife Service Contingency Plan to collect threatened or endangered species and distribute them to refugia. Collections at a flowing artesian well on the Texas State campus and at Diversion Springs at Spring Lake (Aquarena Center) this past year have resulted in collection of nine Texas blind salamanders (*Typhlomolge rathbuni*).

EARDC has provided freshwater biomonitoring services since 1990 and has participated in EPA's Quality Assurance Plan since 1991. Available services include 24-hour acute screen and definitive testing, 48-hour and 96-hour acute testing and 7-day chronic testing. An ISCO Model 6712 Sampler is available for composite or sequential sampling services. For information about biomonitoring services, contact Victor Castillo at (512) 245-3546 or e-mail VC05@txstate.edu.

Education Center activities:

EARDC will present two watershed health and aquatic ecology teacher workshops on March 22 and April 12, 2003. Participants will learn how to carry out a watershed survey and use the internet to obtain useful information about individual watersheds; conduct a stream walk to visually assess a stream; perform water quality tests for physical and chemical properties; sample stream biota and evaluate

how the biological community integrates watershed and stream conditions to indicate ecological health.

Due to the generosity of the Bamberger Ranch Foundation, each participant in the workshop will receive an educator's kit consisting of two aquatic collecting nets, a water quality monitoring kit and five different manuals and monitoring handbooks.

The Aquatic Studies Camp 2002 season was a great success, notwithstanding a week of very heavy rain and flooding that caused the cancellation of one session. Seven one week sessions and one two-day session were held. Twelve teachers and 159 campers participated in the one-week sessions and one teacher and 16 campers participated in the 2-day session. The Aquatic Studies Summer Camp has been held each year since 1989. It provides students aged 9–15 the opportunity to learn about aquatic biology and water chemistry in a university atmosphere while also enjoying various water-oriented recreational activities.

Aquatic Studies Field Day programs were conducted for 1400 students and 114 teachers from forty-nine schools during the past year. The field day program gives students an opportunity to collect living aquatic organisms and observe them under a microscope. Students also learn about the Edwards Aquifer and its biota and view San Marcos Springs from a glass-bottom boat at Aquarena Center. For information about teacher workshops, the Aquatic Studies camp or to schedule a field day, contact the education center at (512) 245-3541 or e-mail LG16@txstate.edu.

This past March EARDC hosted 75 federal judges, court-appointed Special Masters and their assistants for a one-day learning experience about the Edwards Aquifer. They were given the opportunity to collect aquatic organisms, view a flowing artesian well, view the San Marcos Springs at Aquarena Center from a glass-bottom boat and visit a flood-control structure that also serves as a source of recharge. This activity was part of the Dividing the Waters VII conference held in San Antonio.

Research Center/Data Center activities:

EARDC hydrogeology is assisting Gillespie, Kendall, Hays, Bexar, Blanco, Travis, Comal and Bandera Counties with operation of a 43-well groundwater monitoring network of the Trinity Aquifer in Central Texas. Marshall Jennings and Prentice Mooney handle the field, office and website research to keep this network going. The network includes 16 recording sites of which 9 are new sites. These were recently added through a grant by the Texas Water Development Board through the Region L Water Planning Group, administered by the San Antonio River Authority. Prentice Mooney will soon be leaving the project and will be replaced by Ben Henry. EARDC hydrogeology continues to operate three well and springflow sites for hourly water temperature and specific conductance readings at locations along the saline-zone interface in the Edwards Aquifer of Central Texas. The sites are location at Comal Spring #3 in New Braunfels, the flowing artesian well on the Texas State campus, and Deep Spring at San Marcos Springs. Student worker Glenette Reid and Marshall Jennings keep these sites operating and up on the EARDC website.

EARDC hydrogeology has obtained a state of the art streamflow measurement system by SonTek. Called the Flow Tracker 2D system, the device will be available to graduate students doing riverine research. Marshall Jennings has presented seminars to aquatic biology classes on the topic of hydrometry highlighting the use of the Flow Tracker measurement system.

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