

Groundwater to the Gulf: Institute for Central Texas Educators Wednesday, June 15, and Thursday, June 16, 2006

Summary:

Classroom teachers and other educators from Central Texas will be invited to attend a 2-day institute emphasizing techniques for teaching water-based curricula to students in grades 4 through 8. Registration will be limited to 40 people.

Participants will follow the path of water in Central Texas from its origins to its final destination in the Gulf of Mexico. Topics will include hydrology, groundwater, urban watersheds, water quality, water protection, and water conservation. The institute will include lectures and hands-on field experiences with local scientists and water experts.

Curricula, TEKS-aligned activities, and other resources will be distributed to each participant. Educators will receive continuing education credits for their participation.

Tentative field trips and activities planned include:

- Bus tour of karst system: rock identification and fossil hunting in geologic layers, a mini-caving trip, tour of Karst Preserve
- Barton Springs: behind-the-scenes tour of Splash! Exhibit
- McKinney Falls State Park: aquatic insect study, water quality assessment
- Hornsby Bend: bird and/or amphibian observation, tour of water treatment facility
- Lady Bird Johnson Wildflower Center: tour of water harvesting system

The institute is being planned as the first of an annual, regional event.

Immediate Goals:

Goal 1: The workshop will provide knowledge about water in Central Texas.

Students in the fifth grade are now required to demonstrate their science knowledge on the state-mandated TAKS test. Many elementary and middle school educators welcome the new emphasis on science but feel unprepared to teach science effectively.

The lecture portions of this workshop will provide basic knowledge about water science, and teachers will be given suggestions for further study.

Goal 2: The workshop will provide skills for teaching students about water in Central Texas.

Educators will gain experience and confidence by conducting hands-on activities during field trips.

Presenters from Texas Parks and Wildlife, the City of Austin, the Texas Cave Management Association, and The Lady Bird Johnson Wildflower Center will share sample curriculum activities from *Project WILD Aquatic*, *Project WET*, *Project Underground*, *Coastal Expo*, and *Exploring the Native Plant World*.

Goal 3: The workshop will provide resources for teaching students about water in Central Texas.

Participants will receive print and non-print resources, including curriculum materials, bibliographies, posters, CDs, suggestions for field trips, etc. Organizations throughout Central Texas will be invited to display and distribute their materials and information about field trip opportunities in an exhibitor's fair.

Long-range Goals:

GOAL 1: Foster environmental literacy among urban youth in Central Texas by providing educators the resources necessary to conduct environmental investigations.

The workshop will promote the cultivation of environmental stewardship. Studies show that the less contact with nature one has the less likely one is to be a good steward of one's environment (Hungerford and Volk 1990; Roth 1992; Young and Simmons 1992). As the Texas population becomes more urban and our water resources more strained, it is vital that we understand the connection between human activity and our natural resources. This institute will help to bring our natural environment, specifically focused on water, into the classroom.

GOAL 2: Improve Water Quality in Central Texas

By using the tools and techniques for monitoring the environment, educators will acquire the skills and understanding to teach their students about the potential effects of various pollutants, the acceptable standards or limits of various pollutants, and the impact on stream quality and watershed due to land use patterns.

GOAL 3: Extend the Education Efforts of Local Organizations

Local organizations that are charged with educating the public about water issues are often understaffed. This institute will serve as a "train the trainer" effort. Participants will reach many more students than could be taught directly by employees of the sponsoring organizations.

Evaluation:

Participants will be asked to complete an evaluation before the end of the workshop and at 6-month and 1-year intervals asked to report on how they are using the workshop information and materials in their classrooms or programs.

Participating Partners:

This workshop is being planned and organized by representatives from the following Central Texas organizations:

- The Lady Bird Johnson Wildflower Center
- The Barton Springs/Edwards Aquifer Conservation District
- The City of Austin Sheffield Education Center and Splash! into the Edwards Aquifer Exhibit
- The Lower Colorado River Authority
- Texas Parks and Wildlife
- Capital Area Master Naturalists
- Keep Austin Beautiful
- The City of Austin Watershed Protection Development Review Department
- Texas Cave Management Association
- Hill Country Foundation

Funding for this workshop will support travel expenses associated with field trips, curriculum printing, supplies and education resources packs, and food and drinks for participants. It is our hope to procure enough funds to make this opportunity free for all educators who want to attend.