Newsletter of Volunteer Environmental Monitoring in Texas Fall 2006

TexasWatch

River Systems Institute, Texas State University-San Marcos EPA Region 6 TCEQ

Texans Make Strong Showing During World Water Monitoring Day

Between September 18 and October 18 monitors from all over the world participated in World Water Monitoring Day. Held annually, the program engages communities in monitoring the condition of local rivers, streams, estuaries and other water bodies. Since its inception, more than 80,000 people have participated in 50 countries in this international outreach program that builds public awareness and involvement in protecting water resources around the world.

Originally a national event, the program was founded in 2002 by Robbi Savage, president and CEO of America's Clean Water Foundation. October 18 was selected as World Water Monitoring Day in recognition of the inception of the U.S. Clean Water Act – a milestone in efforts to restore and protect U.S. water resources – enacted by Congress in 1972. World Water Monitoring Day became an international program the following year.

An easy-to-use test kit enables everyone from children to adults to sample local water bodies for a core set of water quality parameters including temperature, acidity (pH), clarity (turbidity) and dissolved oxygen (DO). Results are then put into an international database and summarized on the program's Web site: *www.worldwatermonitoringday.org/*.

In 2005 Texas ranked 7th nationally in participation with 147 sites and 469 participants. For a full report of last year's activities visit: *www.worldwatermonitoringday.org/results/05results.php*. The results for this year will appear in the 2006 report which will be available later this year.

Kudos to all who participated this year!

Miguel Flores (right), Director of the Water Quality Protection Division, EPA Region 6, leads Brentwood Middle School 7th graders in water quality monitoring activities at Woodlawn Lake Park in San Antonio, October 17, 2006, in celebration of World Water Monitoring Day.

- Inside -

The preparation of this publication is financed through grants from the U.S. Environmental Protection Agency through the Texas Commission on Environmental Quality.

Connecting the Dots 2006 –

Growth and Water Quality: Living Beyond the Crossroads

By Eric Mendelman, Texas Watch

What do you do when your local creek or stream appears polluted? ... When your water quality data drop below state standards? ... When growth is so rapid, you know it's just a matter of time before water quality problems appear?

These are the kinds of questions that a series of Texas Watch meetings known as "Connecting the Dots" explored. Originating with the 2004 Texas Water Monitoring Congress's *(www.txwmc.org)* Public Outreach Focus Group, "Connecting the Dots" brought together federal, state, and local water resource outreach programs and volunteer monitors to shed light on the difficult water quality issues that affect us at the local level. Beyond just providing valuable information, the meetings also produced recommendations to be passed on to decision makers and citizen groups–hence, connecting the "dots" that can make a difference in the quality of our water.

The Importance of Connecting the Dots

A quick look at some of Texas's vital statistics highlights why it is so important to connect the dots now:

- 51% of impaired stream miles are caused by nonpoint source pollution.[1]
- Texas's population is projected to grow from 20,851,820 in 2000 to 35,761,159 in 2040.[2]
- Between 1992 and 1997, Texas lost 893,500 acres to development.[3]
- Texas ranks #1 nationally in the amount of open space lost to development and is 49th in per-capita spending on state parks.[4]

Because open space protections are key to controlling nonpoint source pollution, a Sierra Club report entitled "Texas's Wide Open Spaces are Disappearing" suggests that Texans are not well prepared to protect water resources. In addition to the "factoids" bulleted above, the report cites the following as causes for concern that loss of open space will continue well into our future: Texas has no statewide land conservation initiative; only 3% of Texas land is designated for public use; and there is no comprehensive land use planning.

And with this loss of open space, the reports suggests, we can expect fragmentation, destruction, and degradation of important wildlife habitat, channeling of rivers and creeks, decreased diversity of plant and animal life, and astronomical rises in land prices resulting in local and state governments being "priced out" of parks and conservation property.

This year's Connecting the Dots meeting, "Growth and Water Quality: Living Beyond the Crossroads," offered a response to this stark picture of Texas's

TEXAS WATCH
2006, Vol. 8, No. 1

The mission of Texas Watch is to facilitate environmental stewardship by empowering a statewide network of concerned volunteers, partners, and institutions in a collaborative effort to promote a healthy and safe environment through environmental education, data collection, and community action.

Subscriptions:
The purpose of the Texas Watch newsletter is to disseminate information about nonpoint source pollution and to encourage and facilitate the exchange of ideas and monitoring data between environmental monitors and supporting partners throughout the state of Texas. The newsletter is published three times a year. For a free subscription, call toll free at (877)506-1401 or send your email request to texas_watch@geo.txstate.edu. To receive the newsletter by email, go to the Texas Watch website listed on the back cover and click on "Subscribe to Our Newsletter."

Contributions:
Contributions to the newsletter are welcomed and encouraged. Please send any articles, letters, or questions to Texas Watch at the postal address listed on the back cover or submit them via email at texas_watch@ geo. txstate.edu.

Tom Nuckols from the Travis County Attorney's Office clarifies county powers to control water quality impacts resulting from growth.

future. Talks on "Zoning, Subdivision, and Land Development Law" (Brad Rockwell, Attorney in Private Practice), and "County Statutes and Legal Powers to Control Development" (Tom Nuckols, Travis County Attorney's Office) presented us with information about the capacities and limitations of local governments to plan for growth and respond to water quality impacts from development. Mary Jennings, with the Texas Commission on Environmental Quality's (TCEQ) Enforcement Division, presented information on the TCEQ's system for tracking repeat violators. Lauren Ross, Environmental Engineer, presented information on the "Limitations of Engineered Water Quality Management Systems," and Richard Alles, Citizens Tree Coalition, discussed Tree Ordinances as a strategy for protecting water quality.

With this information in hand, meeting participants offered the following recommendations to improve water quality protection at the local level:

- Pass bonding requirements for developers.
- Produce and distribute to county attorneys guides to the Texas Water Code and Health and Safety Code.
- Produce and promote the economic benefits of environmentally beneficial actions.
- Engage the agricultural community to recognize wildlife protection as nonpoint source pollution control.
- Repeal the grandfathering laws at the municipal level.
- Require developers to pay fees that fund TCEQ to engineer water quality protections.
- Authorize local entities to charge developers for regulatory costs.
- Expand county powers to control development.

These recommendations were submitted to the 2006 Texas Water Monitoring Congress for inclusion in the meeting's recommendations to the 2007 Texas Legislature. It is Texas Watch's hope that Connecting the Dots and its recommendations will result in positive changes that will help all Texans who care about water to have greater hope for a clean and plentiful water future.

[1]TCEQ, Draft 2002 Texas Water Quality Inventory, 2002, 8-5 and 9-5
[2]Office of the State Demographer, The University of Texas at San Antonio, June 2004
[3]US Department of Agriculture
[4]Texas A&M University

In the Flow –

The Freshwater News Bulletin from the River Systems Institute

"In the Flow" is the weekly freshwater news wrapup and analysis prepared by the River Systems Institute. RSI is partnering with Public Strategies, Inc., to keep Texans apprised of the latest news and events concerning the river systems of Texas and important freshwater issues on a regional, national, and world level. Each bulletin includes a synopsis of the top news items as well as links to the full text of the articles and to a larger selection of recent articles on freshwater topics.

About the River Systems Institute

Texas State University-San Marcos established the River Systems Institute as a leadership initiative to coordinate and further university-wide efforts in the field of aquatic resource management and to emphaze the primary importance of river systems in the hydrologic cycle. For questions about the newsletter, "In the Flow," contact editor Carol Flake Chapman by email at cflake@earthlink.net or by phone at 512-263-9728. To contact the River Systems Institute at Texas State University-San Marcos, call 512-245-9200, or visit their Web site at: *rivers.txstate.edu/*.

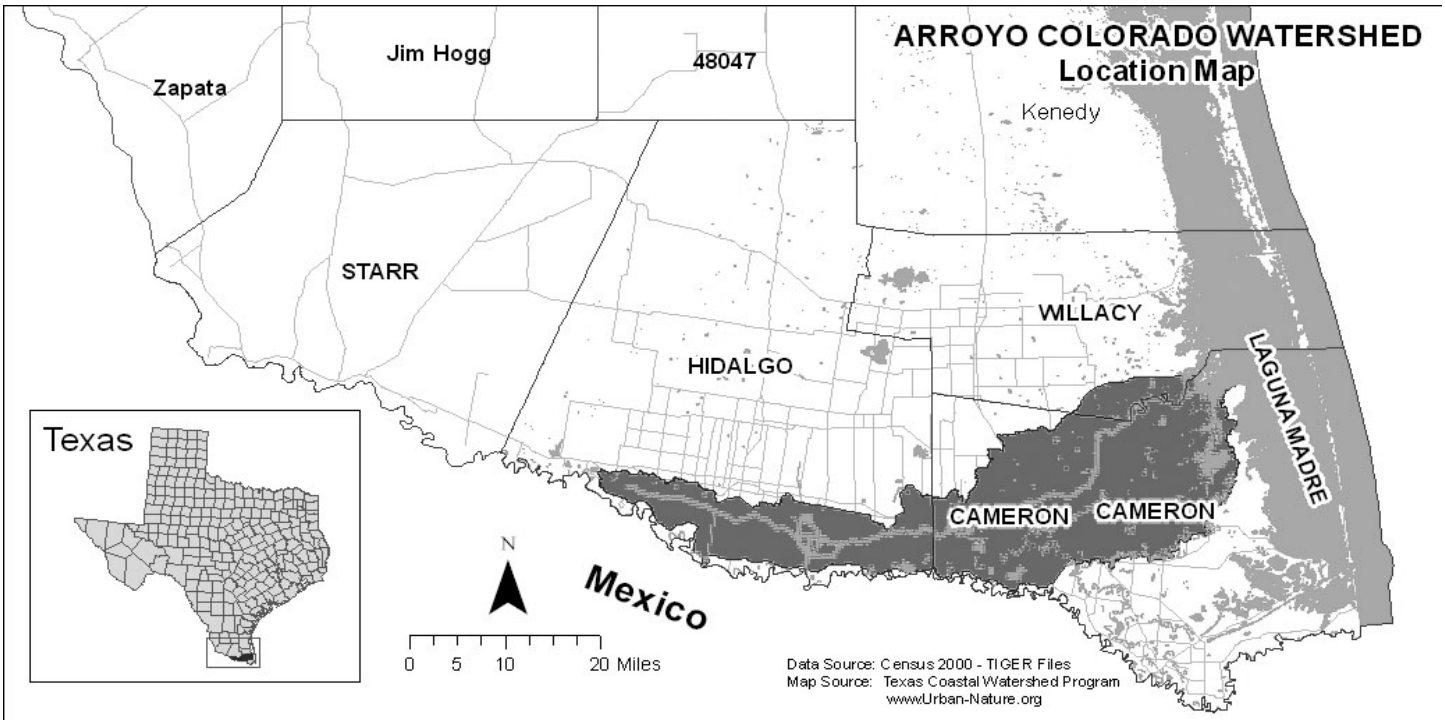
The Arroyo Colorado Watershed Protection Plan –

A Cooperative Effort to Restore and Protect an Important Coastal Stream in Texas

By Roger Miranda, Texas Commission on Environmental Quality

In its most pristine condition, before the arrival of European settlers, the Arroyo Colorado was undoubtedly a coastal stream of extraordinary grace and beauty. Its pools of mirror-still water bore the reflection of a diverse and unique semi-tropical, coastal environment that exists today only in very few and very special places. Gliding across the delta plain of the once mighty Rio Grande River, the quiet waters of the Arroyo Colorado would have crept almost unnoticed through a haunting maze of moss-draped hardwoods that crowded its banks tethered by woody vines and shading a thick, thorny under story of acacias, low palms, scrub brush, and cactus. In its slow journey to the coast, the Arroyo Colorado flowed into large expanses of brackish marsh land where shorter, but equally dense, vegetation concealed a complex coastal ecosystem no less exotic than the rich wildlife community that thrived in the headwaters of the upper delta region. Sadly, this image of the Arroyo Colorado vanished long ago along with those who were fortunate enough to behold it.

Shortly after the beginning of the twentieth century, large-scale agriculture in the Lower Rio Grande Valley began to exert its effects on the Arroyo Colorado and on the entire fluvio-deltaic system of the Rio Grande. The clearing of native plant cover was the first necessary step in accessing and exploiting the rich, organic soils of the delta plain. This clearing was accomplished on a massive scale in the 1920s and 1930s. Today, resource managers estimate that more than 95% of the native brush land in the Lower Rio Grande Valley has been cleared for agriculture and urban development. The Arroyo Colorado itself has been extensively modified to carry wastewater, irrigation return flows, and floodwaters. Near the coast, the Arroyo Colorado is routinely dredged to accommodate barge traffic as far as 25 miles inland from the Intracoastal Waterway, in the Lower Laguna Madre, to the Port of Harlingen. These physical modifications, combined with nutrient pollution from agricultural and urban sources, have greatly degraded water quality in the Arroyo Colorado. This once beautiful and serene coastal stream now suffers from some of the poorest water



quality in the state. Equally concerning is the prospect of poor water quality in the Arroyo Colorado affecting the prolific fisheries of the Lower Laguna Madre.

The Arroyo Colorado Watershed (ACW) Protection Plan, the result of efforts that began in 2003 and finalized this year, is a comprehensive watershed-based strategy to improve water quality and aquatic and riparian habitat in the Arroyo Colorado. Developed by the Arroyo Colorado Watershed Partnership, a coalition of public and private organizations and concerned individuals known collectively as "stakeholders," the ACW Protection Plan addresses impairments and concerns identified in the Texas Water Quality Inventory and List of Impaired Water Bodies (i.e., the state of Texas's Clean Water Act Section 303(d) List). The Plan is considered a "living" document subject to revision and modification every 5 years and in coordination with the State's Region M water availability planning effort. Phase I of the Plan describes the state of the watershed, presents a strategic plan to improve environmental conditions, and proposes a monitoring plan to document improvements during, and following, implementation of the Plan. Subsequent phases of the Plan will make use of the knowledge gained during implementation of Phase I to further improve conditions in the Arroyo Colorado.

The Texas Watch program will play an important role in the ACW Protection Plan. As part of the outreach, education, and monitoring components of the Plan, volunteer monitors will collect water quality data at ten stations on the Arroyo Colorado. Additionally, the Texas Watch program will seek to develop partnerships with local government entities to raise awareness of water quality issues and increase the knowledge base of the Arroyo Colorado. Texas Watch will also organize a regional meeting on nonpoint source pollution issues in the Rio Grande Valley in 2007 to support outreach efforts associated with the AWC Protection Plan.

ACW Protection Plan will be unveiled at the Arroyo Colorado "Pachanga," a media event designed to promote and gather support for the plan. The Arroyo Colorado "Pachanga" will be held at the Weslaco City Hall in Weslaco, Texas, on December 14th, 2006.

For more information on the ACW Protection Plan, and the Arroyo Colorado "Pachanga," visit *www.arroyocolorado.org* or *www.tceq.state.tx.us/implementation/water/tmdl/13-arroyo.html.*

Volunteer Spotlight –

Making a Difference in East Texas

By Carissa Belsky, Texas Watch

I contacted Louis Parlangeli on a Saturday morning just as he was leaving the house to go out and monitor one of his sites. Louis has been monitoring since 1999 in the Houston-Galveston area. He has worked as a chemistry teacher at Dobie High School for 30 years now and is also the Science Club sponsor. On this particular morning, he was meeting some of his students down by the creek for a little environmental education.

When Louis first started the program with his training in 1998, his eldest son, Joseph trained with him. His

Louis Parlangeli's Dobie High School Science Club monitoring group in 2004, one of the first school groups that he trained.

youngest son, Louis Jr., was also trained a couple of years ago and over the years, monitoring has become a combination of family efforts. Joseph has been monitoring consistently with his father for almost six years up until last summer. He has recently gone off to college to study Environmental Science at Texas A&M–Corpus Christi.

Over the years, Louis has decided to get some of the high school students involved in the monitoring program. He currently takes a group of them out to one of his sites once a month on a Saturday morning and encourages them to get trained and start monitoring on

Volunteer Spotlight

(continued)

their own. Louis is now also a Certified Trainer and each fall he trains several students to become certified monitors. He said he's working on getting another training session together for this school semester in order to get a few more students involved. His reason for involving the students is simply to "make them aware."

At this time, Louis Parlangeli and his many helpers are monitoring sites on the following bodies of water: Clear Creek, Mary's Creek, Mudd Creek, and Turkey Creek. When asked if he's noticed a difference in the water quality over the years, he commented on the overall clarity of the water and thinks it may be due to some construction and development upstream. He also mentioned that Mary's Creek is no longer clear like it use to be and the pH is now in the high 8 range. Nevertheless, Louis' efforts continue to be a great contribution to the Texas Watch program and we'd like to express our thanks to him, his family, and his students for all their efforts.

Texas Watch Welcomes Two New Staff Members

Nirmala Karunarathna, Research Assistant, received her undergraduate degree in Science from the University of Peredeniya, Sri Lanka. She is currently pursuing a Master of Science degree in Molecular Biology at Texas State University-San Marcos. Nirmala worked in a previous water quality research project known as "Qualitative and quantitative analysis of toxin producing microbes in Sri Lankan reservoirs." In addition to getting the microbial counts, the project team concentrated on the changes of physical and chemical characteristics of water. She is currently working as the Data Base Manager for Texas Watch. She is enjoying Texas Watch as "one of the best places to work and to gain new experience while protecting the river systems in the state of Texas."

(Continued on page 10)

UCRA Celebrates River-fest by the Concho

By Melissa Bertelson, Upper Colorado River Authority

The Upper Colorado River Authority (UCRA), in cooperation with other organizations and agencies, sponsored the first Riverfest in San Angelo, TX, on May 12, 2006. Three area schools were invited to participate in the event. Over two hundred 5th and 6th grade students from Water Valley, Santa Rita, and Ambleside experienced a day outdoors by the Concho River.

The students rotated between learning to fish and the basics and safety of archery. Basketball was played, not as a sport, but for learning new game drills. Water conservation materials and handouts were given to each participant. Nonpoint source pollution was demonstrated interactively by Texas Watch representatives Julie Tuason and Jana Harter, and water quality techniques were taught to the students, teachers, and volunteers. The students made bird feeders from paper towel rolls, honey and birdseed. First aid was demonstrated on the students. Different wildflowers and facts about them were on hand for the students to observe and learn. Snakes and spiders were available and students to learn about the proper handling and feeding.

The UCRA received donations from local businesses. San Angelo's Retired Senior Volunteer Program (RSVP) provided people to help assist with the day. The event was a success due to the presenters, volunteers, and schools involved. The multi-generational crowd enjoyed the day beside the Concho River.

San Angelo elementary school students get their hands on environmental activities on the banks of the Concho River.

Monitoring Earns Respect for Texas Group

By Jason Pinchback, Texas Watch

Editor's Note: Reprinted by permission with some revisions from the Spring 2006 issue of the National Volunteer Monitor.

One late afternoon in the winter of 2000, I received a phone call from a person living in Rockport, a small town near Corpus Christi on the Gulf Coast. He immediately began recounting his "saga" of letters and calls to local, regional, and state government agencies. His frustration was apparent as he described numerous telephone transfers, referrals to different agencies, and dead ends. Finally someone had recommended that he call Texas Watch, the statewide volunteer water quality monitoring network.

Concerns about Marina

It turned out that this individual represented an impromptu coalition of citizens who were very concerned about a potential fecal pollution problem in Little Bay, the focal center of the Rockport community. The bay is popular for swimming, water skiing, boating, and fishing. As the caller explained, many houseboats docked at the Little Bay marina were occupied full-time and did not typically leave the dock slips or pump their latrine wastes, since pump-out services were not available at the marina. The citizens suspected that human waste from the houseboats was contaminating the nearby swimming areas and possibly other parts of the bay as well.

Usually the first thing I have to consider is whether Texas Watch is able to take on a new project, given our limited resources. The decision is guided by questions like: Is there a potential health or safety concern? Is this a public waterway? How is the water body used by the public, industry, and municipalities? Are there local stakeholders who can assist with the project?

With 10 years of volunteer water quality monitoring coordination behind me, I'm accustomed to receiving emotional calls from worried citizens. Usually the first thing I have to consider is whether Texas Watch is able to take on a new project, given our limited resources. The decision is guided by questions like: Is there a potential health or safety concern? Is this a public waterway? How is the water body used by the public, industry, and municipalities? Are there local stakeholders who can assist with the project?

In the case of Little Bay, we decided the project was worth pursuing. The water is heavily used by the public and a municipality, there were local groups and agencies that could assist, and we knew that there were pathogen problems in adjacent bays. My search for existing data on the bay came up with nothing more recent than the 1980s. There was no current monitoring of Little Bay or its main tributary by state or local water authorities.

Baywide Water Quality Study

Texas Watch began to work with the citizen group to develop a study design. Importantly, we did not focus exclusively on the perceived bacteria pollution issues at the marina. Instead, we designed a broader study whose goal was "to evaluate Little Bay and pertinent tributaries for aquatic life use and contact recreation conditions." We chose this route because initial hunches may not be true and often give way to hard data and analysis.

We established "fixed" sampling stations at four locations: the designated swimming area, the main tributary, the marina, and the center of the bay. Two other "rotating" monitoring locations were designated to periodically move to new places selected on the basis of data analysis. At each station, the volunteers took water chemistry and Secchi depth readings, measured flow, and collected samples for nutrient and bacteria analysis.

For the bacteria analysis, we opted to use Micrology Laboratories' Coliscan Easygel, a simple pour-plate method for

detecting the indicator E. coli. Texas water quality standards for recreational waters actually recommend the indicator enterococci for tidally influenced waters, like Little Bay, and E. coli for freshwater. However, it was not feasible for the volunteers to test for enterococci because no simple enterococci testing method is currently available, and the group did not have money to pay for laboratory analysis. Even though we were not testing for the recommended saltwater indicator, and also were using a method that is not officially state- or EPA-approved, we felt confident that the data would be of sufficient quality for the purpose of identifying hot spots or areas of concern, especially since we would be comparing samples from the same subwatershed. In interpreting the data we did not attach much significance to any single data point but instead looked at trends and patterns based on multiple samples.

A team of volunteers collected water samples from the different locations and delivered them (on ice) to the home of one volunteer, who prepared the Easygel plates and incubated them in a simple homemade incubator. Having one person read and interpret all the plates eliminated person-to-person variation in interpreting the color reactions.

Pollution Fears Allayed

The first year of data collection turned out to be fruitful. The results from sites near the marina did not lend support to concerns about fecal contamination from the houseboats. Counts were low at the designated swimming area, as well as throughout the rest of Little Bay. But the volunteers did find high bacteria counts, along with low dissolved oxygen and elevated nutrient concentrations, at the mouth of the main tributary.

…we did not focus exclusively on the perceived bacteria pollution issues at the marina. Instead, we designed a broader study whose goal was "to evaluate Little Bay and pertinent tributaries for aquatic life use and contact recreation conditions." We chose this route because initial hunches may not be true and often give way to hard data and analysis.

The citizens, who by now had adopted the name "Little Bay Sentinels," were surprised but pleased to learn that their swimming, skiing, and marina areas were not contaminated with excessive pathogens. However, they continued collecting data to learn more about water quality in the bay.

Citizen Group Gets Official Role

Texas Watch encourages citizen groups that we work with to communicate their findings to local agencies and stakeholders. So about two years into the Little Bay Sentinels' monitoring effort, we hosted a regional meeting where scientists, citizens, and agency staff gathered to discuss the results from the project. The meeting drew attention to the fact that the citizen group was the sole entity assessing local surface waters, and laid the groundwork for future cooperation among stakeholders.

Through their work, the Little Bay Sentinels have earned the trust of city officials and have come to be viewed as a valuable resource–as was clearly demonstrated when the city created a new water quality committee composed of the citizen group members and city staff. The coordinator of the Sentinels was appointed chair of the committee.

The story of the Little Bay Sentinels began with what turned out to be a misperception about a water quality problem. It has ended up with a respected volunteer monitoring organization that enjoys city support and funding and has a designated role in protecting local water quality. Key steps leading from point A to point B were the adoption of a well-planned study design, careful data collection and analysis, communication of monitoring results to governmental agencies and other interested parties, and ongoing efforts to work cooperatively with various local stakeholders.

Post Script–In the coming months, Texas Watch will be promoting the E.coli testing method referenced in this article. If you want to learn more about ways you can assess your data, check out the data forum at our web site. Staff are available to assist with data analysis and to discuss your findings. Contact Texas Watch at the phone number or email address on the back of this newsletter to learn more about ways to provide information to local agencies through the Clean Rivers Program, the "Connecting the Dots" series, and other communications processes.

"Learning Urban Watersheds" to Culminate at Texas State

By Marc Speir, Texas State University-San Marcos

Texas Watch's "Learning Urban Watersheds" project is a multifaceted effort that will conclude with an Earth Day event at the Aquarena Center on the Texas State University-San Marcos campus Sunday, April 22, 2007.

The project is funded by a grant from the Environmental Protection Agency with additional participation and support from the River Systems Institute's Texas Watch program, the Texas Commission on Environmental Quality, the Texas Parks and Wildlife Department, the Lower Colorado River Authority and several other partner organizations.

The program combines classroom and outdoor learning activities developed by Texas Watch, and the Texas Parks and Wildlife Department's Project WILD and Texas Amphibian Watch, and is focused on addressing watershed concerns in urban areas to inform students who have limited availability in the field of environmental strain and resources that affect water quality.

13 teachers received training in Texas Parks and Wildlife and Texas Watch curriculum as part of Learning Urban Watersheds (see Sidebar, next page).

"The project is to cultivate a sense of water quality issues in a setting where people don't usually have a sense of their environment," said Julie Tuason, an environmental education specialist with Texas Watch.

In July, 13 high school science teachers in the Houston and Dallas/Fort Worth areas were selected and trained to implement the project in their classrooms during the 2006-2007 school year. Approximately 500 students in the Dallas area and 450 in the Houston area are currently participating.

A noteworthy feature of the program that particularly caught the interest of the EPA in funding the effort is the emphasis on different levels of environmental literacy. The most active form the project embraces is environmental stewardship. The program promotes stewardship by highlighting specific day to day activities we all engage in that contain overlooked environmental consequences.

Stewards are encouraged to educate themselves and others about consumer practices, activities concerning land development and how individual behavior can influence the environment. This involves a set of guiding principles in the decision making process when making choices in car and lawn care, the purchase of products, recycling, waste reduction, conservation, preservation and reuse applications.

An educated steward would know to water the yard in the early morning or late afternoon to avoid the hottest part of the day when evaporation is highest. Committed individuals can carpool, walk, ride a bike or utilize public transportation to reduce pollution.

Other participation in the project involves different approaches to teaching and various field activities in the Dallas/Fort Worth, Houston and San Marcos areas. Lesson plans associated with Texas Watch, Nature Trackers and Project WILD curricula guide the classroom discussion. Instruction is supported and supplemented by project staff, and speakers are recruited to visit.

The Earth Day event will bring 13 teachers and 26 handpicked students to Texas State that will allow high school students from Houston and Dallas/Fort Worth to share content and concepts to younger pupils from surrounding middle schools in the San Marcos and Austin areas. Canoes will be used to collect water samples at Aquarena Center and young scholars will practice proper techniques for performing measurements.

Teachers and students will maintain a record of the event to enhance the information used to evaluate changes in behavior and attitudes toward environmental literacy. Groundwork for future service learning projects may also be discussed.

13 Teachers Selected for "Learning Urban Watersheds" Project

Houston Area

Margaret (Peggy) Campbell – Austin High School, Houston, TX
Jane Compton – Brazoswood 9th Grade Center, Clute, TX
Darice Kurtzer – Kingwood High School, Kingwood, TX
Jean Loedeman – Brazoswood 9th Grade Center, Clute, TX
Ginger Noyes – Quest High School, Humble, TX

Dallas Area

Louis Dagenais – Hebron High School, Carrollton, TX
Anna Ferguson – Grand Prairie High School, Grand Prairie, TX
Amy George – Hebron High School, Carrollton, TX
Bill Ingram – Diamond Hill-Jarvis High School, Fort Worth, TX
Phillip Kinstley – South Grand Prairie High School, Grand Prairie, TX
Chris Long – Webb Middle School, Garland, TX
Natalie Sleasman – Diamond Hill-Jarvis High School, Fort Worth, TX
John Thompson – Plano East Senior High School, Plano, TX

Houston area teachers (left to right): Peggy Campbell, Ginger Noyes, Darice Kurtzer, Jane Compton, and Jean Loedeman.

Dallas/Fort Worth area teachers (left to right): Louis Dagenais, Amy George, John Thompson, Natalie Sleasman, Chris Long, Bill Ingram, and Phillip Kinstley.

Texas Watch Welcomes Two New Staff Members

(Continued from page 6)

Carissa Belsky, Texas Watch's Fall intern, is a senior at Texas State University-San Marcos, majoring in Resource and Environmental Studies with a minor in Geology. She is an active member of Gamma Theta Upsilon (Geography Honor Society) and co-President of The National Association of Environmental Professionals (NAEP). After graduating in December 2006, she plans on finding a job related to current water issues. Her interest in water began with Texas Watch training in February 2005, and she has just completed her Water Policy Certificate through the Geography Department.

Carissa is currently looking into graduate school, but hopes to take a break and get some experience out in the real world before continuing her studies. Carissa is working on Texas Watch's environmental education and outreach, data analysis, and the Volunteer Water Quality Monitoring program.

Test Your Water IQ!

How Well Do You Know Your Facts About Water?

Perhaps you've seen the commercials on television? For more information about the Water IQ campaign, visit their Web site at www.wateriq.org.

Find out how much you know about water—and how to save it—by taking this quick quiz. When you finish, go online to *http://www.wateriq.org/wateriq_quiz.php* to find out your Water IQ score and learn what you can do to raise it (unless, of course, you're a water genius and get them all right!).

1. The Water IQ program is asking everyone to use just 5 percent less water. Lowering your water use by just 5 percent will:
   - ❑ Kill your lawn
   - ❑ Immediately end the drought
   - ❑ Help make our water supply last
   - ❑ Mean you can't take showers on Tuesdays
2. Which of these tips will help save water around your home and raise your Water IQ?
   - ❑ Only water your lawn about an inch a week
   - ❑ Water only before 10 a.m. and after 6 p.m. — never during the middle of the day
   - ❑ Operate your in-ground sprinkler system manually instead of using the timer
   - ❑ Use soaker hoses to water beds, shrubs and trees
   - ❑ All of the above
3. Operating sprinkler systems with an automatic timer helps save water.
   - ❑ True
   - ❑ False
4. If the water level in your swimming pool varies dramatically from day to day, you may have:
   - ❑ A leak and should get it checked right away
   - ❑ A neighbor who is doing belly-flops in your pool late at night while you're asleep
   - ❑ A thirsty dog
5. Watering daily is the only way to maintain a healthy lawn, especially during the summer.
   - ❑ True
   - ❑ False
6. Broken or misdirected sprinkler heads help you water a larger area while cleaning sidewalks and driveways.
   - ❑ True
   - ❑ False
7. The best sprinklers shoot high, fine sprays, which mist your landscape without wasting water.
   - ❑ True
   - ❑ False
8. Raising the blade on your lawnmower helps save water.
   - ❑ True
   - ❑ False
9. Which plants are considered drought tolerant and require less water?
   - ❑ Lantana
   - ❑ Rosemary
   - ❑ Tulips
   - ❑ A and C
10. How much mulch should you use during a drought?
    - ❑ 1 inch deep
    - ❑ 6 feet deep
    - ❑ 4 to 6 inches deep
    - ❑ None, mulching is a waste of time.
11. If it rains, the drought will be over and everyone can use as much water as they want.
    - ❑ True
    - ❑ False
12. How much water can a leaky faucet, tap or hose, waste in just one day?
    - ❑ 1 cup
    - ❑ 20 gallons
    - ❑ 1 gallon
    - ❑ 1,000 gallons

Congratulations to Our New Water Quality Monitors!

Anthony Barrera
Lauren Bilbe
Alexia Bienick
Margaret Bolick
Andrea Brown
Susan Cabello
Peggy Campbell
Naomi N. Castro
Flora Caylor
Jenna Cherry
Dustin Claiborne
Faye Clevenger
Christine A. Coats
Alisa K. Cochroft
Corrie Colvin
Jane Compton
Michael J. Contreras
Nicole Crookston
Lisa Cruces
Mary Crunk
Louis Dagenais
Rachael D'Angelo
Andrew Day
Michael De La Rosa
Casey Dean
Deborah DeCoux
Theresa Diehl
Karene Dirks
Gloria Dodson
Helen Dulac
Melissa Dunagan
Adriana Falcon
Christine M. Faught
Anna Ferguson
Maribel Flores
Brenda Ford
Felix Gallegos
Georgina Garcia
Amy George
Alma Gonzalez
Valerie Gonzalez
Jeri Gragg
Monica Griffith
Lynda Hall
Malcolm Harris
Shelia Henk
Conrad Herrera
Dorothy Ibes
Bill Ingram
Cecilia Jackson-Moore
Ute Kaden
Nirmala Karunarathna
Phillip Kinstley
Darice Kurtzer
Elliot H. LaCook
Jane Lee-Rhodes
Julie Lockwood
Jean Loedeman
Chris Long
Sabrina Long
Marco Lopez
Nicholas J. Maloukis
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Prepared in cooperation with the Texas Commission on Environmental Quality and the U.S. Environmental Protection Agency.
Printed on recycled paper.

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