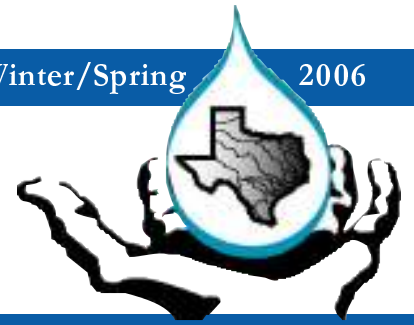


Texas Watch



Geography Department, Texas State University-San Marcos EPA Region 6 TCEQ

Reaching People Where They Live— Texas Watch and the Watershed Approach

By Eric Mendelman, Texas Watch

In the Fall newsletter, I discussed some of the factors—such as funding, volunteer and partner needs, and water quality trends—that influence where Texas Watch directs attention and resources statewide. The result has been a focus on local water quality issues that are a priority for either water resource management agencies (such as streams with documented water quality impairments) or for citizens who are experiencing local environment impacts. As we look into the future, it is increasingly apparent that watershed management strategies will provide the predominant framework for addressing the concerns of both the water agencies and citizens. For this reason, Texas Watch is examining the programs and resources associated with watershed management in order to identify the best ways for volunteers and partners to participate.

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As you know, watershed management is nothing new. It's based on the idea that all activity taking place in the same drainage area potentially affects a common water source. One such activity, discharge from industrial or municipal sources, is highly regulated through an elaborate federal and state permitting system. The leading water resource management programs in this country, however, have long recognized that regulated sources of pollution represent only a fraction of the activities potentially affecting water quality.

Many unregulated activities that we think of as beneficial to us personally carry some risk to our waterways. When most people wash their car in the driveway, fertilize the lawn, or walk their dog (sometimes all on one Saturday), they are generally focusing on the personal benefits of these activities and maybe on the fact that they got it all done before the start of the Saturday afternoon football game. So if an afternoon storm hits in the third quarter, their

immediate reaction might be one of the following: none, because the team that they bet on is barely holding on to the point spread; panic, because they forgot to pull their shiny, clean car into the garage; or relief that they aren't outside walking their dog in the rain.

A less likely reaction might be a sense of dread that the soap, fertilizer, and dog droppings left on the ground earlier that day are now floating toward the storm drain. This sense of dread might even be intensified by the realization that hundreds, maybe thousands, of other people in the watershed have left the same pollutants behind, on that same day.

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Watershed Approach

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And this sense of dread might grow into outright mortification with the thought of it all entering the local drinking water supply.

But we all know it's highly unlikely that die-hard sports fans would turn off the game and rush to the local reservoir in the rain to help with a cleanup. Besides, the problem is likely too complicated and too costly to resolve at this point. So what's the answer? How do we reach people who do not know that their own behavior is the leading cause of pollution in this country? And more fundamentally, how do we get them to care?

The answer is nonpoint source (NPS) pollution outreach and education. The foregoing scenario makes its importance obvious. Washing cars at the car wash, applying fertilizers after (not before) the big rain, and picking up after our animals are behaviors that help reduce pollution risks to our waterways and support guilt-free sports viewing. Sounds good, right?

Well, knowing these behaviors and practicing them is only a start. Getting the message out to enough people to make a positive impact is the bigger challenge. The U.S. Environmental Protection Agency (EPA) has recognized this for a long time. Over the years, EPA has developed an arsenal of watershed management tools and resources to help education programs generate measurable improvements in water quality.

The EPA publication, "Getting In Step: A Guide for Conducting Watershed Outreach Campaigns" (EPA 841-B-03-002)*, presents "new and improved tips and tools for creating awareness, educating specific audiences, and motivating positive behavior change to improve water quality." With NPS pollution prevention at its heart, the guide supports efforts of watershed groups, local governments, and others to turn residents of local watersheds into water guardians. This can be done through watershed outreach campaign plans that identify driving forces behind pollution, establish goals and objectives, identify a target audience, create and distribute a message, and evaluate the campaign's effectiveness. The guide also includes valuable tips for securing funding and overcoming barriers. For watershed educators with an interest in reaching a wide audience, this guide has very practical information.

Another EPA publication that addresses the human factors in watershed management is "Community Culture and the Environment: A Guide to Understanding a Sense of Place" (EPA 842-B-01-003)*. Based on the premise that the "health and vibrancy of the natural environment affects the health and vibrancy of the community and vice versa," the guide considers the cultural fabric to be the root of many of our "most pressing environmental problems, such as NPS pollution, urban sprawl, habitat destruction, and vehicle emissions." Considered a supplement to the agency's traditional regulatory role, the guide seeks to foster voluntary, community-based programs that integrate ecological issues with local concerns, and, therefore, tailors "environmental protection efforts to local realities."

The cornerstone of this guide is a tool kit that breaks down the community assessment process into six concrete steps: (1) conduct pre-project planning; (2)

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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.

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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 e-mail request to texas_watch@geo.txstate.edu.

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 e-mail at texas_watch@geo.txstate.edu.

If you wish to reprint any material published in the Texas Watch newsletter, please notify the editor of your intentions and submit a copy of the final publication.

define goals and community; (3) identify community characteristics; (4) identify assessment methods; (5) analyze results; and (6) select and implement best strategies. This outstanding guide includes worksheets, case studies, a comprehensive bibliography, and a very helpful “Matrix of Assessment Methods.”

At first glance, it might appear that using these guides is “just plain too much work.” It’s easy to be discouraged by the enormity of the water resource issues that we face. Most folks choose to ignore them altogether, opting instead for the easy chair, a cold beer, and the sport du jour. But for those who can’t look away, there is hope.

It appears that all the major water management agencies in Texas place NPS pollution near the top of their list of critical issues. This makes watershed management—and by extension, human factors—key priorities. What this means for citizens is that our water programs are coming to our communities, and they want our buy-in and participation. In other words, we do not have to act on our own. Even more promising is that the fact that watershed approaches are bringing together agencies that have historically had different jurisdictions. A good example is the Texas Commission on Environmental Quality (TCEQ) and the Texas State Soil and Water Conservation Board. TCEQ is authorized to implement NPS programs in urban areas. The Soil Board oversees implementation of NPS projects in agriculture and silviculture areas.

But the distinctions between what is agricultural and what is urban get blurred in areas known as the “urban fringe.” Also referred to as the “urban gradient,” Texas’s rapidly urbanizing watersheds, with their mix of agricultural operations and the sprawling “ranchette” style developments, create a sort of “commons” for TCEQ and the Soil Board to implement watershed management programs. And because the influence of human behavior on water quality is so strong in these areas, Texas Watch will be at the center of many of these efforts, particularly those that are driven by the TCEQ’s Total Maximum Daily Load (TMDL) Program. A TMDL is a measure of the amount of pollution that a water body can receive and still meet state surface water quality standards for its designated uses (for more information about TMDLs, go to <http://www.tceq.state.tx.us/implementation/water/tmdl/index.html>).

If you are familiar with the TMDL Program, you know that it targets water bodies impaired by specific pollutants and establishes loading limits and plans for achieving these limits. For this reason, many consider it more a water quality program than a watershed management program. But many impairments, espe-

cially those cropping up in the urban gradient, come from nonpoint sources. And when nonpoint source pollution becomes the problem, watershed management follows as an important tool for achieving TMDL objectives.

So how does the TMDL Program deal with NPS at the watershed level? NPS pollution problems generally occur over a wide area, and the solutions to NPS generally require that the program reach a wide audience. TCEQ’s standard watershed management toolkit includes stakeholder work groups and public meetings that are effective but somewhat limited in the number and diversity of participants. The TMDL Program’s desire to reach further into the watershed and reach a wider audience has resulted in plans for Texas Watch to play a key role in the outreach and education efforts in four TMDL project areas in 2006: Orange County, Petronila Creek and Oso Bay/Oso Creek near Corpus Christi, and the Arroyo Colorado in the lower Rio Grande Valley.

Along with the Texas Watch TMDL projects, we will focus on Dallas/Fort Worth, Houston, Austin, Laredo, and Nuevo Laredo, where we will train teachers to conduct NPS education in the classroom through the use of the Texas Watch monitoring, watershed survey, and data analysis curriculum. This strategy targets watershed citizens at an early age so that by the time they reach adulthood, they can balance the personal “necessities” such as beer, sports, dogs, and cars, with everyone’s need for clean, affordable water. If you happen to live in one of the project areas mentioned here, please let us know. We look forward to working with you!

*The guide and companion video are available through: National Service Center for Environmental Publications. Phone: 1-800-490-9198. Fax: 513-489-8695. Website: www.epa.gov/ncepihom.

Texas Watch Newsletter Now Available by E-mail

If you are interested in helping us save a few trees, you may now elect to receive your copies of the Texas Watch newsletter electronically. To switch from hard-copy to the e-mail version, please visit the Texas Watch website at <http://www.texaswatch.geo.txstate.edu/index.asp>, go to “Subscribe to our newsletter” on the main home page, fill in your name and e-mail address, and click “Subscribe.” You will be added to the e-mail distribution list and taken off the hard-copy mailing list for future issues.

Volunteer Spotlight – A Guardian of Oso Bay

By Nyta Hensley, Texas Watch



Patrick Thomas became a volunteer monitor for Texas Watch after reading an article about the program in a magazine he found in a waiting room. The article rekindled his desire to be involved in helping the Oso Bay become once again suitable for recreational use. Having waded, kayaked, and fished every inch of Oso Bay, Patrick felt he had a personal interest in helping to monitor this area.

Patrick is a member of an advisory group that coordinates a program to monitor the Oso Bay water quality in conjunction with Texas A&M University at Corpus Christi. This group includes farmers, landowners, users, educators, and state and local officials who are all committed to identifying pollution sources and establishing better water quality. This commitment involves holding on-site classes for fifth graders regarding the importance of Oso Bay to Corpus Christi.

Along with his involvement in the advisory group, Patrick has also participated in creel counts and water analysis projects both nationally and statewide. He plans to continue his volunteer efforts by implementing a neighborhood Adopt-A-Beach program, continuing to offer classes in schools, and helping to educate the public on how litter ultimately relates to water quality.

When asked about his desire to help educate the public, he stated, "I feel that everyone, regardless of background or knowledge, who is willing to invest a little time, can easily become a part of Texas Watch." Patrick has definitely made a difference in the Oso Bay area by helping people realize how they can personally benefit from better water quality.

Grant Writing for Teachers

By Judy Behrens, Grosvenor Center for Geographic Education,
Texas State University–San Marcos

The following is the second in a series of three articles on grant writing resources and strategies for teachers. Article 1, "How to Get Started," appeared in the Summer 2005 issue of the Texas Watch newsletter. Article 2, "How to Locate Grant Funding Sources," addresses the ways in which teachers can stay informed about grant opportunities at the federal, state, and local levels and suggests strategies for matching potential projects with appropriate funding sources. Article 3, "Tips for Writing a Successful Grant Proposal," will outline strategies for writing a successful grant proposal that will meet the needs of the proposed educational project, as well as matching the requirements laid out by the funding organization. Look for the final article in the Grant Writing for Teachers series in an upcoming issue of the Texas Watch newsletter.

How to Locate Grant Funding Sources

Writing a grant proposal to secure funding for an education-based project can be a challenging and time-consuming task, and one of the most arduous steps in the process is often the identification of potential funding sources. Finding the right grant source will significantly increase your chances of securing project funds and will save you both time and frustration associated with rejected grant proposals. All organizations that offer grant awards have specific criteria for the types of projects that they will consider for funding and who is eligible to apply for this support. Grant seekers should do sufficient research to carefully match the award requirements of potential grantors with their own project goals and specifications.

There are many categories of grantors who support the efforts of K-12 educators, including local and professional education organizations, private and corporate foundations, local businesses, and government agencies. Facts about funding opportunities can be obtained from a variety of sources, including newsletters, books, magazines, professional journals, and postings on Internet sites. Grant-related search engines offer access to in-depth information about numerous funding sources, while subscription and non-subscription newsletters provide comprehensive, up-to-date alerts about public and private grants. Most grantors offer comprehensive information for grant seekers on organizational Websites.

In this article, you will find some examples of resources that may prove useful in your search for sources of grant funding. The following sections are meant only as a quick glimpse into the thousands of funding opportunities that exist for K-12 educators. A suggestion for your funding search—be creative, do your homework, and keep searching until you find the grant sources that best fit your particular program. Your chances of receiving a grant award are greatly enhanced if you submit one well prepared grant proposal to the “right” funding source, rather than submitting a poorly researched proposal to several “mismatched” granting organizations.

Examples of Local Grant Opportunities

Check with your local school district or Education Service Center to see if they have a grants assistance office that can help you identify available granting organizations and assist you with other aspects of the grant writing process.

Citizens in many communities have established education foundations to support their local school districts. These organizations usually offer grant programs to help fund projects developed by district educators.

Businesses often maintain community giving programs that support local teachers and schools. For example, Target Corporation (http://target.com/target_group/community_giving/) gives away two local teacher scholarships (\$500 for further education) per store, as well as \$1,500 in grant funds per district. They also award special financial grants to bring schools and nonprofit arts organizations together across the country.

Some Grants Offered by Professional Organizations

The National Geographic Teacher Grant Program (www.nationalgeographic.com/foundations/grants_teacher.html) exists to “help motivate and enable each new generation to become geographically literate.” Grants up to \$5,000 are awarded to K-12 teachers who strive to support geographic literacy in their classrooms.

The National Council for the Social Studies (www.socialstudies.org/awards/geographiclit/) offers the *Enhancement of Geographic Literacy Program*, awarding grants to promote geography education in schools. Individuals or groups in school districts, public institutions, or universities are eligible for awards up to \$2,500.

Funding Opportunities from Corporate Foundations

At the national level, corporate foundations can be an excellent source of grant funding to support education. As but one of many such examples, AT&T Foundation (<http://www.att.com/foundation/>) focuses support on education, and they encourage efforts to win student interest and involvement in mathematics, science, and engineering. They also support programs that focus on the use of technology to enhance teaching and learning. The AT&T Learning Network provides funding to projects that demonstrate effective and innovative uses of technology in supporting families, schools, and communities.

The mission of the Best Buy Children’s Foundation (<http://communications.bestbuy.com/communityrelations/>) is to improve the lives of youth aged 5-18 in communities where Best Buy maintains a business presence. The foundation awards grants in amounts ranging from \$2,000 to \$10,000 to nonprofit organizations with innovative approaches to developing life skills in young people through education, mentoring, and leadership development.

The Wal-Mart Foundation (<http://www.walmartfoundation.org/>) allows local Wal-Mart stores, Sam’s Clubs, and distribution centers to direct 97 percent of its grant funding. The foundation supports several education-based initiatives, including Teacher of the Year. Grant seekers can apply to local Wal-Mart outlets for local funding and should refer to the foundation’s Website if seeking funding for national programs.

A Few Useful Internet Sites

The Foundation Center (<http://www.fdncenter.org/>) is a central repository of information about private foundations designed to serve the needs of grant seekers and grant makers. The mission of the Foundation Center is to foster public understanding by collecting, organizing, analyzing, and disseminating information on foundations, corporate giving, and related subjects.

The State Grants Website (<http://www.governor.state.tx.us/divisions/stategrants>) offers information about funding opportunities to entities throughout Texas, including guidance for finding grant resources and training for grant writers.

School Grants (<http://www.schoolgrants.org>) provides tips on finding grants for elementary and secondary schools, as well as school districts, with links to grant

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Grant Writing

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opportunities and sample proposals. In addition, links to resources that assist in managing a grant that has been funded are provided.

The School Funding Center (<http://www.schoolfundingcenter.com/index.asp>) is dedicated to helping schools find every funding source available to them in the United States. A paid subscription is required to access the complete grant database.

Federal Resources for Educational Excellence (<http://www.ed.gov/free/>) offers access to hundreds of education resources supported by agencies in the U.S. federal government. Resources are available in a variety of subject areas, including science, social studies, educational technology, and vocational education.

Sample of Grant-related Search Engines

The North American Association for Environmental Education's EE Link Multi-Site Grant Search Website (<http://eelink.net/pages/Grant+Search+-+Multi+Site+Search>) allows you to enter keywords to search through more than 25 Internet sites to find grant opportunities to meet your project criteria, including the Federal Register, North American Association of Environmental Education, U.S. Environmental Protection Agency Office of Environmental Education, and Toyota TAPESTRY Grants.

The U.S. Department of Education Search Page (<http://search.ed.gov/>) allows you to search their Website for information about grants by entering relevant keywords. There is a massive amount of information available through this Internet site, so make your search as specific as possible to your situation to save time.

Some Subscription Grant Newsletters

The *Aid for Education Report* (<http://www.cdpublications.com/funding/aidforeducation.htm>) provides comprehensive information on public and private grants, tips from experts on how to win new support, and up-to-date news on federal and state spending for education.

Grants for K-12 (<http://www.grantshotline.com/gs/index.shtml>) offers a weekly e-mail alert providing up-to-the-minute grants and funding information.

TES Courses To Be Offered Statewide

The Texas Commission on Environmental Quality is in the process of finalizing the sites for this year's "Teaching Environmental Science" (TES) courses to be held this summer at universities throughout Texas. The "Teaching Environmental Science" course is designed to provide balanced information and to promote partnerships among teachers, government agencies, businesses, and community organizations, so that students are prepared to take their place as citizens committed to environmental protection, using critical thinking skills in environmental decision making and career opportunities.

"Teaching Environmental Science" is a tuition-paid graduate course in environmental education for teachers of students from kindergarten through 12th grade. It emphasizes the importance of understanding the air, water, and waste issues that affect their community's environmental and economic health.

Although the sites have not yet been finalized for this year, the following universities hosted classes in 2005:

- Lamar University (Beaumont)
- Sam Houston State University (Huntsville)
- Texas State University–San Marcos
- Stephen F. Austin State University (Nacogdoches)
- Texas A&M International University (Laredo)
- Texas A&M University–Corpus Christi
- Texas A&M University at Galveston
- Texas A&M University–Texarkana
- Texas Lutheran University (Seguin)
- Texas Southern University (Houston)
- Texas Tech University (Lubbock)
- University of Houston–Clear Lake
- University of North Texas (Denton)
- The University of Texas at Brownsville
- The University of Texas at Dallas
- The University of Texas–Pan American (Edinburg)
- The University of Texas at San Antonio
- West Texas A&M University (Canyon)

If you are interested in participating in a TES course this summer, watch for updated details on the TCEQ Website at <http://www.tceq.state.tx.us/assistance/education/tes/tes.html>.

Earth Day 2006

By Terry Wendland, Texas Watch

As stewards of this beautiful planet, we should cherish our surroundings daily. In celebration of this, Earth Day 2006 will be observed around the world on April 22, 2006 – thirty-six years after its inception. The first Earth Day was celebrated April 22, 1970, and was a huge success due to the spontaneous response at the grassroots level.

As a watershed steward, there are many things you can do to participate. The U.S. Environmental Protection Agency suggests “Fifteen Things You Can Do to Make a Difference in Your Watershed” (<http://www.epa.gov/owow/watershed/earthday/earthday.html>). The Website contains links to more information about each of these suggested activities:



- **Become a Texas Watch Volunteer Water Quality Monitor!**

Visit the Texas Watch Website to find out how (<http://www.texaswatch.geo.txstate.edu>).

- Learn about your watershed.
- Use EPA’s Nonpoint Source Program Web pages to learn about how nonpoint source pollution affects your watershed and your coastal watershed.
- Go on an Estuary Walk, Lake Walk, Stream Walk, or River Walk and make observations and assessments of waterbody conditions.
- Find out about our precious coastal and marine resources.
- Learn how land use and development decisions affect your water resources and how watershed planning and the watershed approach can help.
- Find a watershed organization in your community and volunteer to help.
- Organize or join in the cleanup of a beach, stream, estuary, or wetland.
- Create a Wildlife Habitat in your backyard, workplace, or schoolyard.
- Participate in or help coordinate a special wetlands activity.
- Enter environmental art and poetry contests.
- Prepare a presentation about your watershed for a school or civic organization.
- Organize a Storm Drain Stenciling Project in your neighborhood.
- Sponsor a Watershed Festival in your community to raise awareness about the importance of watershed protection.
- Learn how to fund your watershed outreach and public education efforts.

As we celebrate this global environmental holiday, let’s remember to make a commitment every day to preserve the beauty of our Earth. Make every day Earth Day!

For more information on Earth Day, please visit these sites:

<http://www.epa.gov/earthday/>

<http://nature.org/earthday/>

<http://earthday.envirolink.org/>

If your community, workplace, or school is participating in an Earth Day 2006 event, send the information to the Texas Watch Webmail address at texas_watch@geo.txstate.edu and we will post it to our Website calendar.

In Memoriam – Berta Stanukinos

By Jason Pinchback, *Texas Watch*

About six years ago I was in Lampasas to meet with the Friends of Sulphur Creek water quality monitoring group. That's when I first met Berta. It took about half a second to get a strong first impression about her... she was passionately concerned about her creek and community; she could out-talk anyone within earshot;



she had more stamina than the typical teenager; she knew water, and she had a cute way of saying, “know what I’m saying?” Not that it was a question or anything like that—more rhetorical, just to make sure you were still keeping up with her line of thinking. Since then, I’ve unknowingly adopted that “...know what I’m saying?” into my speech as well. I think of her often when that ends up coming out spontaneously.

Like Berta, those who make it their mission to clean up their neighborhood creek know how frustrating it can be. Since she spearheaded the Sulphur Creek cleanup effort and founded the Friends of Sulphur Creek (FoSC) in 1990, Berta attended countless meetings to discuss the myriad activities in the watershed. She was not always concerned with being politically correct, and you could count on her to press agency staff for answers and action. Berta not only attended meetings, but she also led the monitoring group's efforts to establish and sample more than six locations for more than ten years. In 2005, Berta also spearheaded the establishment of a collaborative research project between the Brazos River Authority and the Texas Commission on Environmental Quality, extending FoSC monitoring efforts into increased water

quality assessment by water resource management agencies. Indeed, the FoSC monitoring group is one of the best in Texas!

Berta is an inspiration like no other. Her right-hand man (and husband) Tony also accompanied her as a fellow monitor and confidante during various water activities. In 1999, Berta became legally blind from diabetes, and Tony did all the monitoring and relayed the results via “walkie talkie.” They made an excellent team!

Aside from her Sulphur Creek efforts, there were many other great things about Berta. Before retiring in 1990, she was actively involved in 4-H in San Antonio. Berta and Tony also opened up their home to be “substitute parents” for children at the Sunshine Cottage, a school for hearing-impaired children. Students at the Sunshine Cottage were taught to read lips rather than rely on sign language as their sole form of communication.

Berta Stanukinos, 69, died on November 14, 2005, in Lampasas. A long-time friend of Texas Watch, she will be greatly missed.

In Memoriam – Karen Sue Johnson

By Eric Mendelman, *Texas Watch*

We are saddened by the loss of a friend of Texas Watch. When Texas Watch was getting its feet on the ground in 1991, I was in charge of forming an Advisory Committee to steer the first years of the program. Through the process of forming the committee, I met Sue Johnson, who at the time was serving on the board of the Barton Springs Edwards Aquifer Conservation District. Sue helped the program to actualize its vision of citizen involvement in water resource management and through



positive, supportive, and most importantly realistic advice she helped Texas Watch form a sound foundation. After her service on the Texas Watch Advisory Committee, Sue, a professor of sociology at Texas State University–San Marcos, remained a steadfast friend of volunteerism and a profound voice for citizen empowerment.

Attention, Monitors— The Importance of Writing Things Down

By Jason Pinchback, *Texas Watch*

As many of you know, Texas Watch actively looks at your data to assess and screen it for potential water quality concerns. Over the last couple of years, we have pored over thousands of numbers while conducting these assessments. One thing is clear: *Careful documentation of your monitoring activities leads to increased ability to use water data and to communicate water concerns.*

Please pay special attention to the following things when you document your data: The pH and/or conductivity calibration tables; two dissolved oxygen samples; the conductivity tester used (tester 2, 3, or 4); and monitor signatures are most notably absent in some data sheets. Without these records, it is difficult to summarize and communicate the information to agency personnel, general public, and to fellow monitors. Help us to increase the usability of your data by submitting complete records.

River Systems Institute Introduces New E-mail Bulletin

by Carol Flake Chapman, *Editor, In the Flow*

Last October, the River Systems Institute at Texas State University—San Marcos began publishing *In the Flow*, a weekly e-mail bulletin apprising readers of the latest news, trends, studies, and events relating to the river systems of Texas and extending to important freshwater issues on a national and world level. The River Systems Institute is partnering with Public Strategies, Inc., of Austin in order to access the extensive database of LexisNexis and other Web-based sources to produce the weekly Media Intelligence bulletin. The bulletin arrives as an e-mail, which summarizes the latest news and allows subscribers to link to a Website that contains the full text of the articles. The newsletter is designed as a research, teaching, and strategy tool for state agencies, scientists, educators, nonprofit organizations, media professionals, and recreational users engaged in studying, protecting, and experiencing the wonders of our precious freshwater resources. If you are interested in subscribing to the newsletter, contact Joy Moden by email at jm93@txstate.edu.

Teacher Summer Science Institute to be Held in Rio Grande Valley

The University of Texas School of Public Health—Brownsville Regional Campus is now seeking applications from teachers interested in participating in the Teacher Summer Science Institute, to be held July 17–21, 2006, in and around the McAllen/Brownsville area in the lower Rio Grande Valley.

The primary objective of the Teacher Summer Science Institute is to enhance scientific knowledge and laboratory skills about the health sciences under the direct facilitation of experienced research faculty and educators. The program provides opportunities to develop partnerships with biomedical scientists and educators and to learn about resources in the Rio Grande Valley and Texas Medical Center communities. In addition, participants will learn practical teaching strategies for presenting health and medical concepts to students by participating in hands-on, multidisciplinary activities. The 2006 program will highlight the immune system and diseases such as tuberculosis and diabetes.

The Teacher Summer Science Institute is open for up to twenty teachers responsible for teaching science. Each teacher accepted to the Summer Institute will receive a \$1,000 stipend.

The application deadline is April 28, 2006. For more information and an application, visit the program's website at <http://www.sph.uth.tmc.edu/chppr/headsup/events.htm>, or contact Nathalie Sessions, HEADS UP Project Director, by e-mail at nsessions@uth.tmc.edu.

Calendar of Events

A “Calendar of Events” page is available on the Texas Watch website for our Partner organizations and other friends of the program to publicize upcoming events related to water resources and the environment. If you wish to post information about your event, please e-mail us at texas_watch@geo.txstate.edu. Be sure to include contact information in case we need any clarification on the details of your event.

Lake Texana Water Data Correction

By Jason Pinchback, Texas Watch

Editor's note: An article from the Fall 2005 issue of the Texas Watch newsletter called "This Is One Sexy Set of Data" contained incorrect information due to an error in the way that the data was compiled before analysis. Since the error affected a large portion of the summary data, the data analysis (corrected) is re-presented here, in full.

In alignment with Texas Watch's core mission, monitors collect data that can be used in decision-making processes to promote a healthier and safer environment for people and aquatic species. Watershed education and water quality monitoring are key components of the program's efforts to succeed with our mission. Every year water quality monitors collect about 1,000 samples from 300 sites. Each data sheet documents more than twenty environmental features from each site. Working with numbers to create good information and a "big picture" view of water quality changes can be challenging to say the least. Some of these challenges surfaced last fall when Texas Watch assessed Edna Junior High's Lake Texana data.

Data Summary

Data collected by Ken Barton and his student monitors includes: pH, specific conductivity, water and air temperature, dissolved oxygen, flow severity, days since last precipitation, total depth, sample depth, Secchi depth, and field observations (Table 1). This is typical of the range of data collected by most volunteer monitors.

All pH values were within standard numeric criteria and expected ranges. The pH average for the period 2000–2004 was 7.5 su, with a median value of 7.6 su. The pH values remained relatively stable over time, with values ranging from 6.7 su to 8.3 su.

Specific conductivity values were within expected ranges for this region. Specific conductivity (SC) values averaged 195 $\mu\text{S}/\text{cm}$, with a median of 200 $\mu\text{S}/\text{cm}$. There was a slight decreasing trend from 2000 to 2004, with values ranging between 60 $\mu\text{S}/\text{cm}$ and 290 $\mu\text{S}/\text{cm}$.

Dissolved oxygen values averaged 7.12 mg/L, with a median of 6.8 mg/L. Eighteen of fifty-eight samples were below the "exceptional" numeric criterion of 6.0 mg/L, resulting in thirty-one percent of the samples exceeding this aquatic life use standard. There was a slight decreasing trend from 2000 to 2004, with overall values ranging from 2.9 mg/L to 10.6 mg/L. The correlation coefficient, or the r^2 value, appears to show that water temperature influences dissolved oxygen fluctuations. Water temperature and dissolved oxygen clearly show an inverse relationship. Typically, these influences are more dominant in shallow water bodies with slow flow or movement.

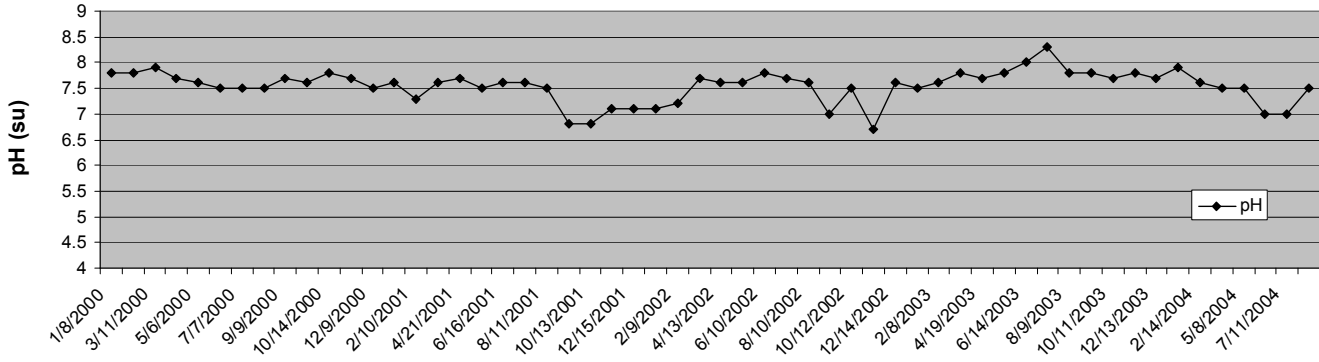
The Secchi depth average value was 0.21 meters, with a median value of 0.17 meters. There was a slight increasing trend from 2000 to 2004, with values ranging from 0.1 meters to 0.71 meters. This seems to mimic total depth trends. There was an increasing trend from 2000 to 2004, with total depth values ranging from 0.15 meters to 1.01 meters, respectively.

Table 1. Lake Texana at Simon's Cove (Station ID # 15774)

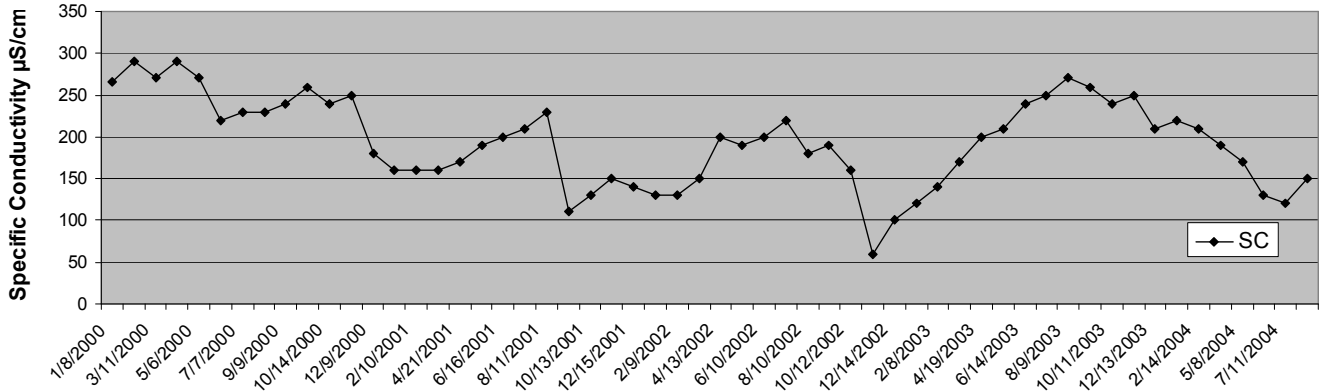
	N	% Complete	MIN	MEAN	MAX	MEDIAN
Sample TIME	58	97	9:00	9:02	9:10	
Total Depth (m)	58	100	0.2	0.7	1.0	0.8
SC μS	58	100	60.0	192.0	270.0	200
Water T (C)	58	100	10.0	21.6	31.0	19
DO (mg/L)	58	96	2.9	7.1	10.4	6.8
pH (su)	58	100	6.7	7.5	7.9	7.6
Secchi Depth (m)	58	92	0.1	0.2	0.7	0.17

DO exceedence [< 6.0 mg/L]: 18 of 58 are less than 6.0mg/L = 31% of samples are below the "exceptional" standard

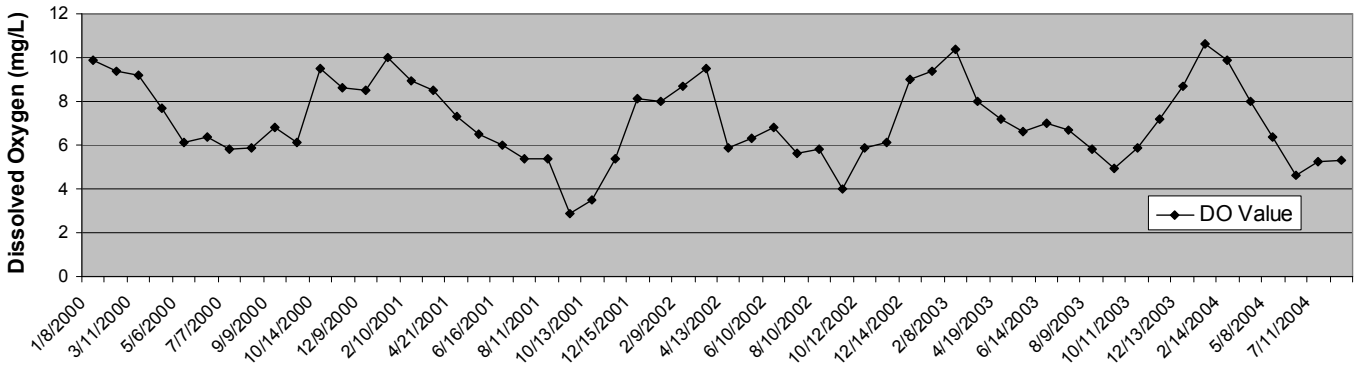
Lake Texana at Simon Cove dock (pH)



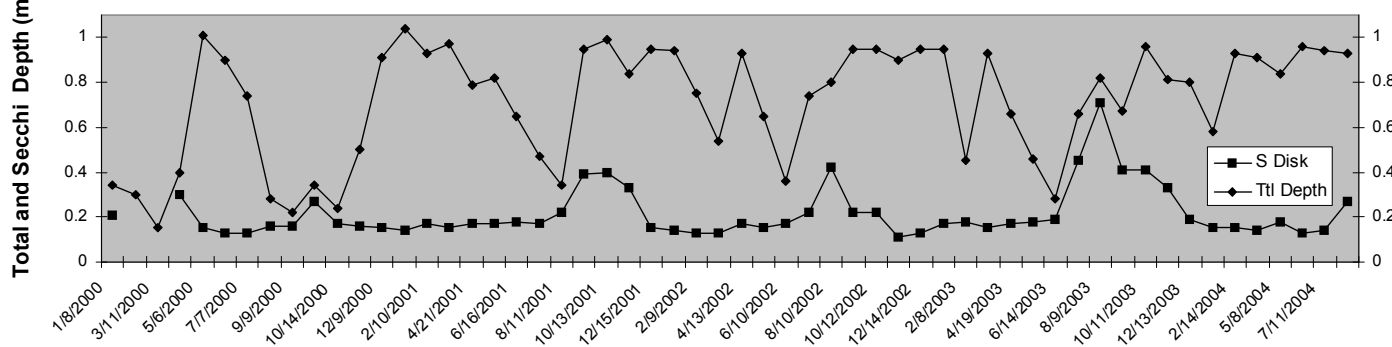
Lake Texana at Simon Cove Dock (Specific Conductivity)



Lake Texana at Simon Cove Dock (Dissolved Oxygen)



Lake Texana at Simon Cove Dock (Total and Secchi Depth)



Congratulations to our New Water Quality Monitors!

Anita Ashford
 Donald Benson
 Jason Buster
 Christa Castro
 Clayton Denton
 Earl Dittman
 Sue Dittman
 Frank Engel
 Melissa Fuechec
 Davis Hensley
 Jane Hensley
 R. Craig Hensley
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 Tram Tran
 Phyllis Walther
 Edgard Watson
 Arthur Williams
 Zi Yang

Data Viewer "Out" on Hiatus


Those of you who have recently tried to access the Texas Watch Data Viewer may have noticed that we are experiencing some technical difficulties. We are working to have it fully functional as soon as possible. If you want access to volunteer water quality monitoring data in the meantime, contact Texas Watch at (877) 506-1401 or send an e-mail to JP30@txstate.edu. Texas Watch thanks you for your patience.




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