



Headwaters

River Systems Institute Texas State University-San Marcos EPA Region 6 TCEQ Summer 2009

Monitors Recognized at Statewide Meeting

by Jason Pinchback, Texas Stream Team

Texas Stream Team is proud to have recognized 40 volunteer water quality monitors and 15 statewide partners for outstanding service at the 2009 Meeting of the Monitors. Approximately 65 people attended the event, which was held in New Braunfels on July 17-19, 2009, at the T Bar M Ranch Resort. David Boylan (shown at left, with his daughter, who helps him when he monitors), of the Lindheimer Master Naturalists monitoring group,

received the highest award, Monitor of the Year (see page 6 for a complete list of award winners).

By most accounts, the 2009 Meeting of the Monitors was a success and well received. Those who attended said this was a valuable meeting that energized and connected people with new interests and ideas to address their local issues.

The Friday agenda focused on stakeholder-led water resource projects. Highlights from this day included presentations from

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Landscaping to Prevent Water Pollution

by Abigail Wetzel, Texas Stream Team

Nonpoint source pollution is a major problem in our world today. This is due to the fact that nonpoint source pollution, also known as NPS pollution, comes from a variety of different sources and you cannot pinpoint precisely who or what is causing the pollution. The variety of different sources includes agricultural runoff, urban surface runoff due to impervious covers, fertilizers and pesticides, and pet wastes. NPS pollution is also intermittent in nature due to the amount and intensity of rainfall, land surface area and type, topography, soil type and human activities. All of these variables make NPS difficult to regulate.

This article will focus on the NPS pollution caused by fertilizers used in landscaping. Landscaping can be a great addition to any home or business, if done in an environmentally conscious way. First off, you want to have as much pervious (or porous) cover as possible. This includes wood decks, flagstone paths without mortar/concrete, or any kind of substrate that water can penetrate. Including pervious cover reduces runoff and allows more water to return to the groundwater supply. Soils act as a natural filter, which reduces the amount of pollutants reaching the ground water. Soil filtration combined with use of organic fertilizers and pesticides helps bring down the amount of pollutants entering our waters.

Fertilizers and pesticides are a large contributor to NPS pollution. The three main nutrients in fertilizers, nitrogen, phosphorous and potassium, are essential to plant growth. Unfortunately, when these nutrients are not used up by the plants and it rains, they are washed into our rivers, lakes, and oceans. Once they

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Landscaping to Prevent Water Pollution

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enter bodies of water they have the same effect on algae as they do on garden plants: growth. The algae doesn't just grow at a regular rate, it multiplies excessively. This affects the amount of nutrients available to other plants, usually resulting in a decrease of native plants. Increases of algae growth also uses up large amounts of dissolved oxygen and blocks light from reaching the deeper areas of the water body. A decrease in the amount of dissolved oxygen leaves less oxygen for other aquatic life to use, resulting in a decrease in their populations.

There is some good news in regard to this topic. In order for nutrients from fertilizers to have the above mentioned effects, they have to be washed into our water bodies in excess amounts. So, there is something that we can do. One of the simplest steps to reducing NPS pollution from fertilizers is to read the directions on the fertilizer and don't overfertilize. A second step you can take is to do a soil test to see the amounts of each type of nutrients you need. By this I mean how much nitrogen, phosphorous, and potassium you need. Fertilizers have a number on the front of the bag that tells you what percentage of nitrogen, phosphorous and potassium (NPK) is in the fertilizer. You want to pick the one that best fits the results of your soil test.

Another piece of good news is that you can buy organic fertilizers that do not have any harmful chemicals in them. Based on information from the Planet Natural website, organic fertilizers are different from nonorganic fertilizers in that, while

providing nutrients they are also building up the soil. Soils need organic material in order to maintain aeration and not become compacted, to sustain soil moisture and nutrients (which encourages healthy root growth), and to promote the growth of soil organisms. If only chemicals are applied, the soil over time loses its ability to maintain soil moisture and becomes compacted. The soil will also lose its microbiotic organisms and deteriorate. The deterioration of microbiotic organisms makes the soil more susceptible to disease and insect infestation. When the organic matter no longer exists in



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The mission of Texas Stream Team 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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Headwaters disseminates information about nonpoint source pollution and facilitates 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 email your request to Julie Tuason, Editor, at jt07@txstate.edu.

Contributions to the newsletter are welcomed and encouraged. Please send any articles, letters, or questions to Texas Stream Team at the postal address listed on the back page or submit them via email to the editor.

If you wish to reprint any material published in *Headwaters*, please notify the editor and submit a copy of the final publication.

Greetings from Our New Volunteer Coordinator

by Josh Oyer, Texas Stream Team

Hello monitors! As Heidi Moltz is now onto a fresh and exciting new job, I am doing so as well. I will be your new Statewide Volunteer Coordinator here at Texas Stream Team. I started as an intern for Texas Stream Team (at that time, Texas Watch) in the spring of 2008. Then, upon graduation from the Geography Department here at Texas State University, I was hired on to work full-time on a separate grant project focusing on the Rio Grande, with some data-analysis duties for Texas Stream Team. Once Heidi accepted a job in Washington D.C., I applied for her open position and the folks here at Stream Team put their faith in me. I am extremely excited to get started and will be the one each of you should look to for equipment, support, or any other monitoring concerns that you might have. I know that all of you are extremely committed, good spirited people, and my job will be newly inspired every day getting to work with all of you!

Please never hesitate to e-mail, call, or come by our headquarters to talk with me. The solution to any water quality problems we may have here in the great state of Texas lies in a strong network of volunteer monitors, and we have an amazing core of watershed stewards here at Stream Team. So let's keep up the work, continue to be ambassadors for the environmental cause, and keep the waters in Texas as clean as we possibly can. As unique and breathtaking as this state's landscape may be, our obstacles to keeping the waters in it swimmable, fishable, and wadable are as well. I am so fortunate to have this challenging opportunity and I hope I can break new ground and grow this wonderful program even more. So please, once again, never hesitate to air your concerns. I am here as a committed public servant for all you great Texans.

You can e-mail me at jo27@txstate.edu or call (512) 245-7591. ●



Volunteer Spotlight –

Sharon Slagle and Richard Ramke

by Mary Waters, Texas Stream Team

This volunteer spotlight belongs to two people, Sharon Slagle and Richard Ramke, who both work for the state of Texas. Sharon works for a state agency and Richard works for a local university, and both are members of the Rio Grande Valley chapter of Texas Master Naturalists. The two natural waterways in the Rio Grande Valley, the Rio Grande River and the Arroyo Colorado, both have water quality problems. To try to improve the water quality of the two waterways the pair decided to start monitoring water quality, in hopes of improving the Rio Grande and the Arroyo Colorado in order to help sustain the wildlife and help restore them for recreation opportunities.

Sharon and Richard have been monitoring their sites since 2007 and unfortunately they have not seen any improvements. The sites are characterized by marginal dissolved oxygen levels, sharp spikes in *E. coli* counts and by trash. Over their several years of testing, Sharon and Richard have found the waters flowing briskly through the drainage ditch-like canals that snake between agricultural fields. Beside these canals, they see a variety of wildlife including hawks, warblers, red-winged blackbirds, doves, mockingbirds, and more. They also see signs of the wildlife that is out in the night including coyotes and possums. Due to concerns about illegal dumping of septic tank waste or oil field wastes Sharon and Richard would like to see “No Dumping” signs posted on roads that cross the waterways with an emergency number to call if you see someone dumping waste. Illegal dumping like these examples are ways that the water bodies are continuing to be impaired.

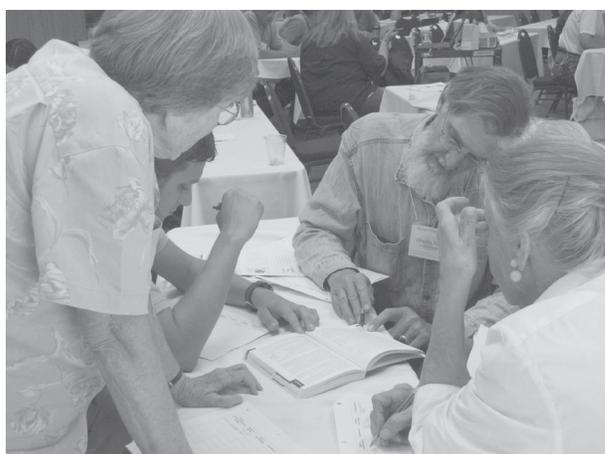
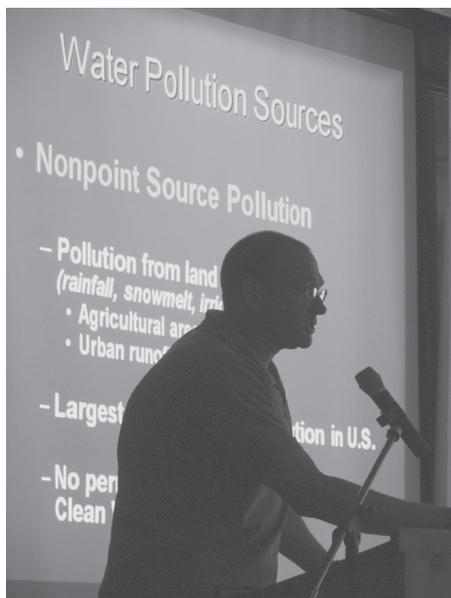
With people like Sharon and Richard out there spending their own personal time to monitor sites with hopes of improving the quality of water for humans and wildlife, there is some hope for restoration of impaired water bodies. ●

To view our other monthly Volunteer Spotlights online, go to txstreamteam.rivers.txstate.edu/Volunteer-Spotlight.html

2009 Meeting of the Monitors

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keynote speaker Andrew Sansom (River Systems Institute), Glenn Buckley (certified monitor and trainer), and Hays County Commissioner Karen Ford.

Saturday focused exclusively on volunteer monitors with a variety of presentations, including an interesting perspective from Diane Humes. Diane is a Houston-Galveston Area COG monitor who is testing *E.coli* at an artificial wetland pond designed to reduce pathogens. The highlights from Saturday included Mike Bira's presentation (Environmental Protection Agency) and a touching keynote speech from Stephen Hubbell who is a Colorado River Watch Network monitor.

Sunday field trips closed out the conference with unique opportunities to hike the recently carved Guadalupe Canyon Gorge and to learn about the Canyon Lake Dam and hydro-generation facility. After the field trips, the group gathered at the world's shortest river (Comal River) for lunch and an interesting presentation from the City of New Braunfels' Nathan Pence.

Texas Stream Team would like to thank the conference sponsors, the Texas Commission on Environmental Quality and U.S. EPA Region VI and co-sponsor Hach-Hydrolab. There was also coordination and field trip leadership provided by GBRA, City of New Braunfels, and the Lindheimer Chapter of the Texas Master Naturalists. ●

These photos and many more are available for viewing and downloading at our photo sharing website: www.flickr.com/txstreamteam

2009 Outstanding Service Awards

David Boylan, Monitor of the Year
 Maurine Rose Banzhaf
 Ken Barton
 Glenn Buckley
 Mark Carter
 Julie Collins
 Lockwood Cox
 Douglas deVidal
 Yuridia Patricia Peralta Gandy
 Ginger and LaRay Geist
 Kathleen Green
 Jana Harter
 Missy and Jack Harrington
 Dan Holman

Steven Hubbell
 Diane Humes
 Barbara Jacobson
 DaNelle Lawyer
 Maureen Lemke
 Teri MacArthur
 Jackie Mattice
 Mark McNamara
 Jo Meaker
 Eric Mendelman
 Roger Miranda
 Sonja Mlenar
 Diane Nousasen
 Kaya Pinchback
 Tom Rott

Ivan Santoyo
 Charlene and Warren Sefcik
 Patricia Sims
 Sharon Slagle and Richard Ramke
 Richard Smart
 Gary Spence
 Holly Stanley
 Mark Webb
 Julie Westerlund
 Myra Winfield
 Angelina Neches River Authority
 City of Denton
 City of Nuevo Laredo
 Texas State University Dept. of Geography

Edwards Aquifer Research and Data Center
 Glen Rose High School
 Greater Lake Palestine Council
 Guadalupe Blanco River Authority
 Houston-Galveston Area Council of Governments
 Lower Colorado River Authority
 lower Neches Valley Authority
 Luling River Pals
 San Marcos River Foundation
 Texas State University-San Marcos
 Wimberley Valley Watershed Association



If you missed the Meeting of the Monitors, keep your eye out for our next Volunteer Recognition Event, to be held at Aquarena Center in San Marcos next summer. Details will be published in the spring newsletter.

Landscaping and NPS

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the soil and the above mentioned results take place, you will have to use more and more chemical fertilizers and water in order to nourish your plants. This being said, it should be obvious that you would want organic fertilizers that help promote healthy soil. A healthy soil can give you the beautiful plants you want while helping to reduce the amount of chemicals that get into our waterways. Keep in mind that organic fertilizers still have the same nutrients and can be overused too. Overuse of organic fertilizers can burn your plants and still cause environmental problems, although to a lesser degree.

Another aspect of landscaping that can be altered to help reduce pollution is erosion control. According to Laura and Robert Rice, authors of *Practical Horticulture*, erosion is “the movement of soil particles from one place to another and is a process that is detrimental to the fertility of the soil.” The main causes of erosion are the runoff after a heavy rain, improper irrigation or being blown away by the wind. Erosion is most detrimental when induced on a steep slope. In order to reduce the amount of erosion taking place, you can plant plants that have deep fibrous root systems that tend to spread out horizontally when growing. You want to reduce erosion from your landscape because when it rains the soil is washed off lawns and into storm drains or directly into water bodies. Not only does this reduce the amount of fertile top soil, but it also causes build up of sediments in water bodies.

All of these factors tie together. Nonpoint source pollution is caused by various sources, including fertilizers and sediments from home and commercial landscaping. You can have landscaping that is environmentally friendly. It starts with having as much pervious cover as possible to reduce runoff after rains. Along with those pervious covers you should try to not have any exposed soil, and use ground covers or mulch to keep the soil in place so that when it rains there is not a lot of sediment runoff. Last but not least, you should use organic fertilizers to help build up your soil and reduce the amount of chemicals released into our waters. All of these steps will help to make your landscape beautiful and environmentally friendly.

This article only explains some of the possible steps you can take to creating an environmentally friendly landscape. There is an abundance of literature on the web and in magazines and books that I suggest you research more if you are interested in the subject. To get you started, here are some examples of where you could find more information. ●

“A Green Guide to Yard Care”: http://www.tceq.state.tx.us/files/gi-028.pdf_4464426.pdf

Natural Living First Magazine: <http://www.livingnaturalfirst.com/livingnaturalfirstmagazine.php>

Planet Natural: <http://www.planetnatural.com/site/xdpy/sg/Organic%20Fertilizers>

Extremely Green Organic Fertilizer Guide: <http://www.extremelygreen.com/fertilizerguide.cfm>



Congratulations to Our New Water Quality Monitors!

Sue Anderson	Vanessa Escobar	Susan Kendall	Tien Nguyen	Dan Rivas	Russell Sequin	Cristal Venzor
Graciela Aviles	Tricia Espiritu	Kirk Killett	Yesnia Nieto	Terezo Rivera	Laurel Srp	Hector Villarreal
Elias Baron	Brett Estes	Brian King	Kenny Pailes	Jeanette	Alice Stolfa	Hillary Villarreal
Don Beal	Matthew Evans	Taylor Koenig	Kelly Pearson	Rodriguez	Nancy Stone	Abby Wetzal
Christina Berzins	Megan Flowers	Grant Kuempel	Brandi Perry	Rachel Roehler	Christina Suh	Lauren Williams
Samuel Blount	Christopher Fritel	Billy Lee	Rachel Perry	April Tomas	Sumaiya Syed	Suzanne Willis
Paulette Boudreaux	Adrian Gama	Krystie Lee	Angelica Quezada	Rose	Sherra Theisen	Kate Young
Courtney Boykin	Heather Gilley	Alex Lopez	Sara Rains	Martha Rose	Chastity Titus	Stephen Young
Jeanette Boylan	Matt Gommert	Lindsey Martin	Amanda Raley	Miguel Ruiz	Kristen	William Young
Samantha Mae	Bonnie Guess	Denis McGinness	Tim Refsland	Marcy Salazar	Twerberg	Joan Zahornackay
Brown	Helen Hall	Rachel McMahan				
E. Nicole Bryant	Andrea Hamilton	Jazmine McMorris				
Paul Bucek	Ashley Hanson	Laurie Merrick				
Barbara Caballero	Jenna Hanson	Danielle Miller				
Hallie Casey	T Hanson	Jim Miller				
Patty Collier	Pamela Hohman	Leslie Miller				
Barbara Coutant	Barbara Hole	Rita Miranda				
Catie Cox	Lynette Holtz	Sarah Miranda				
Manie Davis	Francesca Invernizzi	Kevin Moon				
Cathy Delwiche	Russ Johnson	Julie Mosty				
Jason Devaney	Benjamin Jones	Gene Moulden				
Bret Dingley	Bethany Kelarek	Joanne Murphy				
Terri Dingley	Patricia Kelly	Stephanie Nedly				
Lacey Escalante	Walter Kelly	Diana T. Newport				

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Texas Stream Team is a partnership of the River Systems Institute and the Texas Commission on Environmental Quality.

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