

Collaborative Planning Makes Fort Worth Nature Center Training Successful

By: Neal Denton, formerly with Texas Stream Team

Texas Stream Team would not be able to support the activities of every volunteer water quality monitor in Texas without the help of partner agencies and exceptional volunteers. The July 28th core water quality monitor training at the Fort Worth Nature Center served as a fundamental example of watershed partnerships.

Cindy Crump, the Education Naturalist at the Fort Worth Nature Center, participated in a Texas Stream Team core water quality monitor training at the Statewide Texas Master Naturalist Annual Meeting and Advanced Training in October of 2011. The following January, she contacted us in order to begin a monitoring program at the nature center.

Around the same time, David Rutledge completed his certification as a Texas Stream Team Volunteer Trainer at the Environmental Health Sciences Summer Institute in July of 2011. Since David resides in Glen Rose, which is roughly an hour away (by car) from Fort Worth, we contacted him to see if he would be willing to conduct training workshop on July 28th. David not only enthusiastically agreed to conduct the training but also went above and beyond to coordinate most of the details with Cindy.

Luminant Generation Company is a power generation company that sponsors the monitoring group at Glen Rose High School. The high school monitoring group has been monitoring the Paluxy River for ten years.

With the volunteer trainer identified, there was only one thing left to take care of, providing the monitoring supplies. David said we could use the Glen Rose High School monitoring kits for the training workshop. However, those kits are equipped with pH meters, and our core water quality monitor training involves the colorimetric method. Using our local partner network, Texas Stream Team reached out to find some kits in the area. Partners contacted included the Trinity River Authority, the City of Dallas, the City of Grand Prairie, the City of Denton, and the City of Irving.

Karen Siddall, the Drainage Programs Coordinator for the City of Irving, saved the day when she not only agreed supply 15 kits for the workshop but also personally deliver them. A week before the training, Texas Stream Team received the roster of 13 attendees; mailed the certificates and other training materials to David; and everything was set for the workshop.

The July 28th workshop at the Fort Worth Nature Center is a wonderful example of how partners, volunteers, staff, and interested parties can work together to protect and preserve the quality of water resources in Texas. Texas Stream Team would like to thank all the people who made the workshop possible.

Aquatic Plant Series: Water Stargrass (*Heteranthera dubia*)

By: Jessica Snider, Texas Stream Team

Description: Water Stargrass is a submerged plant that floats near the surface of the water and can grow up to 6 feet in length. The leaves are 10-15 cm long but thin (2-6 mm wide) and may appear almost like dark green grass just below the water's surface. One distinguishing characteristic of this

species is that leaves have no apparent vein running down the middle of the leaf. Leaves grow alternating along dark green, branch stems. From March to November, water stargrass produces small, yellow, 6-petal flowers, which look like stars, giving the plant its name. Flowers rise just above the water's surface to bloom and cross pollinate - producing seeds. If a flower fails to break the water's surface, it will remain closed and self-pollinate. Water Stargrass will also reproduce asexually when stems break free from the plant and root in another location, called fragmentation reproduction.

Habitat and Range: Water Stargrass is native to North and Central America and common in Texas. It can be found in slow moving rivers, ponds and lakes with waters up to one meter in depth. The plant prefers growing in mud or clay rich soils in slightly alkaline environments. Studies have even found large stands of Water Stargrass can actually raise the pH of the water.

Importance: Like most submerged plants, Water Stargrass produces food for water fowl and provides shelter for fish, micro-invertebrates and macro-invertebrates. One study found that *Chironomidae*, or midge larvae were the most common macro-invertebrate found on Water Stargrass.

Please start to look for this plant at your site, especially during the summer months when it blooms. If you do see Water Stargrass, please note it in your comments section in the Environmental Data Form. If you have a question about this plant or need help with identification, feel free to email me at jessicasnider@txstate.edu.

References

- "Heteranthera dubia – water star-grass." www.ecy.wa.gov/programs/wq/plants. Web. Accessed 07 Aug 2012
- "Heteranthera dubia in Flora of North America." eFloras.org. Web. Accessed 07 Aug 2012
- "Bay Grass ID Key> Water Stargrass." www.dnr.state.md.us. Web Accessed 07 Aug 2012
- Balci, Pinar and Kennedy, James H. "Comparison of Chironomids and Other Macroinvertebrates Associated with *Myriophyllum spicatum* and *Heteranthera dubia*." *Journal of Freshwater Ecology* 18.2 (2003): 235-247.

Texas Stream Team Welcomes New Staff

By: Terry Wendland, Texas Stream Team

Welcome, Travis Tidwell, Volunteer Monitoring Program Coordinator

Travis Tidwell joined Texas Stream Team in June of 2012 as the Volunteer Monitoring Program Coordinator. His prior work experience was with the National Oceanic and Atmospheric Administration on the Natural Resource Damage Assessment of the Deepwater Horizon oil spill. Travis graduated from the University of Texas at Austin with a B.S. in Biology. He earned his M.S. degree in Marine Science from the University of Texas Marine Science Institute in Port Aransas, TX. His graduate studies focused on the early life history of billfish.

Travis lives in New Braunfels, TX where he spends as much of his free time as he can fly fishing and kayaking on the Guadalupe River.

(picture will be added)

Welcome, Travis Harrell, Summer Program Intern

Travis Harrell joined Texas Stream Team as a program intern in June of 2012. Currently a student at Texas State University-San Marcos, he is working towards his Bachelor's degree in Water Resource Management with a minor focus in Geology. His passion for environmental quality protection and conservation is deeply rooted in his desire to help others, coupled with a deep appreciation for our natural environment.

(picture will be added)

Students & Teachers Conclude their Urban Watersheds Project Work

Oso Creek, Corpus Christi

By: Jennifer Mandel Buratti, Texas Stream Team

Students and teachers from Claude Cunningham Middle School wrapped up their final semester of work on the Urban Watersheds Project in May 2012. The project began in June 2010 and was made possible through an Environmental Protection Agency Environmental Education Grant.

Collaborative funds were contributed through local and state partnerships. The project combined Texas Stream Team, Texas Nature Trackers, and Project WILD Aquatic in a coordinated effort to increase environmental literacy and stewardship among middle school students at Cunningham Middle School in Corpus Christi, Texas.

The project will help prepare students, as future citizens, to actively participate in water quality protection efforts. The local water quality project for these students is the Texas Commission on Environmental Quality's (TCEQ) Total Maximum Daily Load (TMDL) project that is taking place in the impaired water bodies of Oso Creek and Oso Bay.

Students conducted water quality monitoring testing twice during fall 2010 and 2011 semesters. During spring 2011 and 2012, students conducted amphibian and reptile counting at different locations in the Oso Creek watershed. The field investigations helped students understand the links between water quality, wildlife and water resource stewardship. Students also conducted several clean ups, were featured in a local news broadcast and wrote an outreach news article as part of their service learning project.

Pre and post-test surveys of students showed that the field investigations and related curriculum does have an effect on both functional and operational level, which includes higher level thinking skills, knowledge about local watershed, conservation ethic, and personal conservation actions (Boyette, 2012).

Teachers and Stream Team are seeking new funding to continue the project and to support the interests of students who are now seeking future careers in water resource protection.

To learn more about the project go to:
<<http://txstreamteam.rivers.txstate.edu/Projects/urban-watershed-project.html>>.
(PICTURES WILL BE ADDED)

Levels of literacy

- Nominal - ability to recognize many of the basic terms used in communicating about the environment and to provide rough, if unsophisticated, working definitions of their meanings;
- Functional - a broader knowledge and understanding of the nature and interactions between human social systems and other natural systems; and
- Operational - progress beyond functional literacy in both the breadth and depth of understandings and skills (Roth, 1992).

References

Boyette, Cheryl T. June 2011. Urban Watersheds Project Report.

Roth, Charles E. (1992). Environmental literacy: Its roots, evolution, and directions in the 1990s. Columbus, OH: ERIC/CSMEE. Roth, Charles E. (1968). On the road to conservation. Massachusetts Audubon, June 1968, pp. 38-41.

Volunteer Spotlight: Michael and Connie Bales *Brazos River Basin*

Connie Bales became a certified Texas Stream Team water quality monitor at the Texas Master Naturalists' annual meeting in 2003. Her interest in the health of Texas watersheds must have been

“It’s amazing that the actions of two people get so many others thinking more conscientiously about a natural feature – the River.”

infectious, because 2 years later her husband, Mike, also joined Texas Stream Team. Together, the two Cross Timbers Master Naturalists helped develop a project plan for Holland Lake Park in Weatherford, Texas that involved non-native plant species removal, clearing a diversion channel of re-growth, and of course, monthly water quality monitoring of two lakes in the park.

When Connie heard that there weren’t any Texas Stream Team volunteers on the upper Brazos River, she naturally wanted to get involved. Hence, once a month, the couple from Euless, Texas would make a roughly 260 mile round trip to their sites on the Brazos River. Their farthest upstream site, at the Highway 16 Bridge just below the Possum Kingdom dam, was the “put-in” location for John Graves’ famous canoe trip down the Brazos in his book *Goodbye to a River*. It was at this site that Mike sampled during a benthic discharge event from the dam early in his monitoring career.

“I think what really excited me was knowing that I had the tools in-hand to capture the event. During our monitoring sessions, we could actually identify events and perhaps impact what could be a water quality altering event,” Mike said.

Connie has always enjoyed the questions she receives from people while monitoring on the Brazos and at Holland Lake Park.

“It surprises me how many ask the same questions, ‘Is the water okay?’ ‘Should we be concerned?’” Connie said. “The members of Mountain River Community actually asked us to use their location as one of our sites. They wanted to know more about the river and we opted to send them the sponsor copies of our data sheets. It’s amazing that the actions of two people get so many others thinking more conscientiously about a natural feature – the River.”

Unfortunately, Connie and Mike are retiring from their monitoring with Texas Stream Team. However, that does not mean their interest in water quality projects is ending, but instead it is evolving to become a part of a new chapter in their lives. The main reason they can no longer monitor with Texas Stream Team is because they are building a house on forty acres along where else, but the Brazos River. Their plans also include what Mike calls “a little Nature Center of sorts” that will include interpretive trails,

hands-on exhibits, demonstrations and talks that they can provide to local school/church groups with an environmental focus. With all of their experience as Master Naturalists and Stream Team Monitors, this project is sure to be a success.

Said Mike, "I would like to give a word of thanks to Stream Team, as well as, the State of Texas for making these programs possible. To me, it is what makes government, taxes, and the day-to-day grind of the world worth walking through. Just to be able to be in the fabric of the world, where everything is connected and you can realize that you are part of that – where we all should be."

Thank you to Mike and Connie Bales for all of your hard work and dedication to Texas Stream Team.

Thank you & Happy Retirement

As with any organization, we sometimes lose volunteers due to family, health or job related issues. We are always sad to lose any of our wonderful volunteers. We are grateful for all the hard work and valuable time they spend with us. The Texas Stream Team will miss their presence and would like to send good thoughts and well wishes their way!

The following volunteers have sadly had to leave the program and will be greatly missed:

- Constance and Michael Bales – This team has been sampling for nearly a decade and is currently working on a new house and nature center at their home. While they will no longer be monitors, they both plan to continue to spread the message of water conservation and stewardship.
- Ruben Saldana – Ruben, who presented his monitoring data at the Texas State Science Fair, has relocated to College Station where he is currently attending Texas A&M.
- Shannon Roysden
- Stacy Zimmerman

Art & Nature Series: Carving Nature

By: Jessica Snider, Texas Stream Team

There is no doubt that nature inspires art. But on the other hand, art can inspire a love for and motivate us to protect nature. Austin artist Dave Runnel's woodcarving has led him to a lifelong passion studying, watching and creating beautiful art-pieces of Texas waterfowl and ducks. Dave had always enjoyed working with wood and one day his son led him on a unique path by asking to carve him a duck.

"I started carving waterfowl and ducks and have not stopped," says Dave. In order to better depict his subjects exhibiting their natural behaviors and in proper habitats, he frequents Texas coastal areas and reservoirs, observing different species and researching the life history and habitats of various waterfowl. Dave is known for his detailed feather carving, and hand painting techniques. "They truly are carved with my personal love of ducks, waterfowl and birds" Dave comments of his work.

Dave won first place at an art show with his carving of a Common Loon - one of his favorite birds. While Dave Runnels does not specifically use his artwork to inspire conservation, he believes that it can increase interest; research about waterfowl; and protection of both the birds and the Texas wetlands. Since developing his website, Dave has found that viewers will “look up the various ducks and waterfowl or ask questions.”

To view more of Dave’s beautiful carvings or to ask him about any of the species he has craved, feel free to visit his website at < www.woodcarvedducks-waterfowl.com > or email him at < prunnels@prodigy.net >.

(picture of his Common Loon Carving)

References:

“The Common Loon.” The Nature Conservancy. < <http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/journeywithnature/the-common-loon.xml> > Web. Accessed 8 Aug 2012.

Thompson, Stephanie A. and Price, J. Jordan. Water Clarity and Diving Behavior in Wintering Common Loons. *Waterbirds* 29.2 (2006):169-175.

Kuhn, A, J. Copeland, D.E. Nacci, J. Cooley, K. Taylor and J. Vogal. Modeling Habitat Preferences and Constraints for the Common Loon in Northeastern North American. The Wildlife Society 16th Annual Conference. 20-24 Sept 2009.

Clark, Dan. Loons get Special Treatment at DCR Reservoirs. *Commonwealth Conversations* at <environmental.blog.state.ma.us/blog/2011/06/loons-get-special-treatment-at-dcr-reservoirs>. Web. Accessed 8 Aug 2012.

“Fs.usda.gov - Common Loon.” March 2001. <http://www.fws.gov/r5gomp/gom/habitatstudy/metadata/common_loon_model.htm>. Web. Accessed 8 Aug 2012.

“Measurements of Success: Common Loon.” Seattle Public Utilities <http://www.seattle.gov/util/About_SPU/Water_System/Habitat_Conservation_Plan/Species/Birds/CommonLoon/index.htm>. Web. Accessed 8 Aug 2012.

The Common Loon, *Gavia immer*, grows up to 3 feet long, with a wingspan of up to 5 feet (The Nature Conservancy). It breeds in the northern U.S., Canada and Greenland and winters along the Atlantic and Texas Gulf Coast. Since loons hunt and fish on crustaceans by sight, they prefer clear, calm water (Thompson and Price, 2006) and, will travel as far as 100 km offshore to find these conditions (U.S. Fish & Wildlife Service, 2001). They avoid breeding in colored or cloudy waters with low pH or high phosphorus (Kuhn et al., 2009). In Massachusetts, the Common Loon is used as an indicator species of water quality (Clark), while in Washington it’s listed as a threatened species has helped increase attention on watershed monitoring and protection (Seattle Public Utilities).