

Coordinated Watershed Protection in Southeast and South Central Texas

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Update from Regional Watershed Coordinator

Brian Koch, Regional Watershed Coordinator, TSSWCB Wharton Regional Office, Wharton, Texas, bkoch@tsswcb.state.tx.us

Hello everyone, and welcome to our fourth newsletter. The past month has been a busy one across the region with meetings and other activities. On June 8, we held our sixth regional Watershed Coordination Steering Committee Meeting in Columbus, where the group was updated on my activities, including Plum Creek, and from the previous meeting in March '06 the groups that spoke on their respective WPPs.

The first to speak was Susan Benner on the Dickinson Bayou WPP, where she talked about their partnership meeting on April 19 that included surveys on issues impacting the bayou, prioritization of these issues, and the group was asked about their activities pertaining to use on the bayou. On May 22 they had a boat tour along a portion of the bayou, and there is an article on

that further in this newsletter. The draft outline for the WPP is near completion and the work groups were in the process of meeting again. For more information please visit: www.dickinsonbayou.org.

Steve Lusk from the San Antonio River Authority updated the group on the

Upper San Antonio River WPP, where they held their second meeting, and went over the ground observations stemming from the group at the previous meeting marking suspect locations on a large aerial photo of the watershed, and the results mainly identified sewer running into the street. Monitoring is still ongoing, with the zoo being the major contributor, mainly from the native wildlife that incidentally visits the zoo seasonally. The monitoring also helped to identify another source of bacteria which are two large storm drain tunnels that flow into the river. Also, the results from their Bacteria Source Tracking indicated 13% unknown, 17% sewage, and 70% animals. Their draft WPP is due in July, and their next meeting is on July 24th. For more information go to: www.sara-tx.org/.

Todd Running from the Houston-Galveston Area Council updated the group on the Bastrop Bayou



Aransas River in Refugio County. Photo by Brian Koch.

WCSC Meeting Schedule

September 7, 2006

December 7, 2006

March 8, 2007

June 7, 2007

WPP, where their draft risk assessment is complete, and is currently under review by the Galveston Bay Estuary Program. The project has been approved by EPA, and looks to have a workplan completed by September. Brazoria County is in the process of installing watershed signs along the roads where they cross the bayou, and tributaries. Bastrop Bayou brochures are being distributed at libraries and other public places to promote the plan.

They are planning to have a stakeholder meeting during the summer to kick-off the project. Todd Running also spoke briefly about a use attainability study for Buffalo and White Oak Bayous which is currently under a TMDL for bacteria and the designated use is for contact recreation. The goal is to answer if these urban bayous can support contact recreation. Their research has shown that 99% of the bacteria are coming from stormwater, 40% of that is human sources. Harris County and the City of Houston are partnering with the Medical Center to fund some of this project, and to look at some epidemiology background to assist with the project. For more information please visit: www.h-gac.com/.

Also, a discussion on leveraging different funding sources for water quality improvement projects was held at the meeting and the topics included: TSSWCB/TCEQ Clean Water Act §319(h), Coastal Impact Assistance Program, Coastal Zone Management 6217, NRCS-Cooperative Conservation Partnership, US EPA-Targeted Watersheds Grant, and Regional Geographic Initiative. The next WCSC meeting will be September 7th in Columbus.

On June 13th, I presented our watershed model at the Wild Outdoor Adventure Camp held at Stephen F. Austin State Park near Sealy. I also answered questions pertaining to water quality, this outreach is important to teach the kids the importance of clean water, and ways to prevent pollution.

In San Antonio on June 15th, Texas Parks and Wildlife, TCEQ, and Texas Water Development Board, hosted an Instream Flow Data workshop, to help finalize the Texas Instream Flow Program Draft 2006 Technical Overview. The Draft 2006 Technical Overview was developed by the agencies involved to describe the scientific methodologies recommended for conducting instream flow studies as part of the Texas Instream Flow Program. On June 19th, there was a meeting in Karnes City for the Lower San Antonio River TMDL for bacteria and they are in

the process of putting together a 24 member steering Committee.

For more information please visit:
www.tsswcb.state.tx.us/programs/wharton_wcsc.html.

Plum Creek Watershed Update

Brian Koch, Regional Watershed Coordinator, TSSWCB Wharton Regional Office, Wharton, Texas, bkoch@tsswcb.state.tx.us

June was a very busy, yet productive month for the Plum Creek Watershed Partnership. Nikki and I traveled to Austin on June 5th to meet with HDR, project managers for TXDOT, to discuss the proposed wetland mitigation for Texas 130, which is a toll road that begins around Georgetown, and will end at Interstate 10 near Seguin. The proposed 265 acres of constructed and protected wetlands along Plum Creek have the potential to aid in improving water quality in Plum Creek, as well as the benefits of the increased wetland habitat for a variety of species. This proposed wetland mitigation will be incorporated into the Watershed Protection Plan.

On June 20th the PCWP held their second steering committee meeting in Lockhart. At this meeting, Nikki Dictson led off with an update of activities pertaining to the promotion to increase awareness and participation in the PCWP, including presenting an overview of the project to the Luling Kiwanis Club and the City of Kyle Water Advisory Group, as well as having a booth at the Luling Foundation Farm Field Day. The meeting with HDR on June 5th and the WCSC meeting that occurred on June 8th were also mentioned.

Nikki also discussed the media campaign that TCE has been working with Agriculture Communications at Texas A&M to increase awareness and participation in the Plum Creek Watershed Protection Plan process. TSSWCB wrote an



Plum Creek Steering Committee Meeting on June 20, in Lockhart. Photo by Brian Koch.

initial news release announcing the project in January. TCE has written six news releases since January and has placed paid meeting announcements in the local papers.

At the May 9th meeting, the steering committee requested that we tour the watershed from headwaters at Kyle to Luling, with different stops along the way to highlight the various activities from development, to agriculture, and petroleum production. Additionally, there will be a tour of the wastewater treatment plant in Lockhart, so the group can get a better understanding of the operations there. The steering committee members also approved and signed the ground rules for the partnership.



Plum Creek at Soda Springs. Photo by Brian Koch.

We invited several of the agencies involved in the project to speak a little on what roles they play in improving and protecting water quality. The first presenter was Allison Woodall from the TCEQ Clean Rivers Program, she explained how the program provides water quality data, evaluates water quality issues, and engages stakeholders such as GBRA that conduct water quality monitoring in their respective basins. Then David Villarreal from the Texas Department of Agriculture explained how they regulate pesticides and work with ag producers to protect water quality. Ramon Fernandez from the Texas Railroad Commission talked about well plugging, and where the money for that is allocated, he also provided maps with all of the plugged wells within the watershed, and surrounding counties.

After the presentations, the workgroups were given their roles and tasks, and those who had not signed up on a workgroup before the meeting

were asked to join the one they were most interested in or the one they had experience with. Once the workgroups were formed, they were broken up, and each one was given the responsibility of: Setting the meeting time and place for their meeting in July, identifying key stakeholders or agencies missing from the group, major issues for the respective groups, and what data and information was needed to move forward with the process. Overall, this was a great meeting, and the entire group is ready to tackle this plan and make it a success.

For more information on this project, please visit: <http://pcwp.tamu.edu> or contact Nikki Dictson or myself.

Upcoming PCWP Meetings

Water Quality and Habitat
Tuesday, July 11, 2006
6:00-9:00 pm
Polonia WSC, Polonia

Agriculture NPS
Wednesday, July 12, 2006
6:30 - 9:00 pm
Caldwell Co. Courthouse Annex,
Lockhart

Outreach and Education
Thursday, July 13, 2006
9:00 - 12:00 am
Luling Foundation Farm Office, Luling

Urban Stormwater and NPS
Thursday, July 13, 2006
12:30-3:30 pm
Kyle City Hall, Kyle

Wastewater and Industry
Thursday, July 13, 2006
6:00-9:00 pm
Lockhart State Park, Lockhart

Plum Creek Watershed Tour
Thursday, July 27, 2006 Meet in
Lockhart at 9am

PCWP Steering Committee
Thursday, August 10, 2006 6:00-
8:30pm
TBD

Dickinson Bayou Tour

Susan Benner, Watershed Coordinator, Texas Sea Grant, Houston, Texas, sbenner@tamu.edu

Monday, May 22nd was a beautiful day to be out on the water, especially if that water happened to be Dickinson Bayou. The Dickinson Bayou Watershed Partnership organized a tour of Dickinson Bayou that day to illustrate the issues facing the bayou and its watershed.

The tour was well attended with representatives from the Cities of Dickinson and Friendswood, landowners along the bayou, Galveston Bay Area Master Naturalists, Keep Dickinson Beautiful, Galveston Bay Estuary Program, Galveston Bay Foundation, Texas Parks and Wildlife, Texas General Land Office, Galveston Bay Eco-Paddle Association, Hillman Shrimp & Oyster Co., and Texas Coastal Watershed Program.



Dickinson Bayou Boat Tour. Photo by Susan Benner.

The tour participants, some in boats or pontoon and others in their own kayaks, launched from the Highway 3 public boat ramp in Dickinson. First stop on the tour was a visit to the Asher property. The property is located approximately 1½ to 2 miles downstream (east) of the boat ramp at Highway 3, approximately ¼ mile downstream of the Dickinson Country Club. Along the way to the property it was noted that a significant amount of shoreline on the bayou was bulkheaded, many in several states of disrepair. Bulkheading is the shoreline stabilization method that creates a vertical wall. Problems associated with bulkheading include not being aesthetically pleasing and not absorbing the wave energy generated by motorized traffic on the bayou.

The wave action created by pontoons/boats/jet skis who do not obey no-wake zones bounces off the bulkheading and back into the bayou where it can increase erosion on unstablized shorelines. The property owned by the Asher's was especially interesting since they have recently installed, in cooperation with the Galveston Bay Foundation and Texas General Land Office, an alternative form of shoreline stabilization. The property has incorporated a combination of riprap and wetland vegetation to stabilize the shore and provide an important wildlife habitat.

The wetland plant species planted on the property include smooth cordgrass (*Spartina alterniflora*) and California bulrush (*Scirpus californicus*). Benefits associated with this type of stabilization structure is that it is more pleasing to the eye, the vegetation planted provides a habitat for birds and animals, and the riprap and well rooted wetland vegetation do a better job of absorbing and breaking up the wave action. Another key benefit of the alternative shoreline project relative to a bulkheading is the cost savings.

The alternative shoreline stabilization project costs approximately \$40 per linear foot (including the planted area behind the riprap), versus \$100-150 (or more in some cases) per linear foot for a bulkhead. The installation of the project was awarded partial funding through a grant program administered by the Galveston Bay Foundation. On the tour Jim Dobberstine with the Foundation provided the tour attendees an overview of the project.

The next stop on the tour required heading back upstream to the Highway 3 boat ramp where Texas Parks and Wildlife representatives, Derek York and Leslie Williams were available to demonstrate some of the sampling equipment used in Dickinson Bay. The equipment included a bag seine, oyster dredge and a shrimp trawl. Derek and Leslie then used the bag seine to capture the following fish species at the boat ramp:

Common Name	Scientific Name
Pinfish or known also as Piggy Perch	<i>L. rhomboides</i>
Gulf Killifish	<i>Fundulus similis</i>
Sheepshead Minnow	<i>Cyprinodon variegatus</i>
Spot	<i>L. xanthurus</i>
Mosquito Fish	<i>Gambusia affinis</i>
Striped Mullet	<i>Mugil cephalus</i>
Gobi (found in the oysters)	<i>G. bosc</i>

Paul Hopkins Park was the final stop on the tour and is upstream of the Highway 3 Bridge. Along the way to the park several new housing developments under construction were observed, with once again the majority of the shoreline being bulkheaded. At Paul Hopkins Park, Charriss York with Texas Cooperative Extension/Texas Coastal Watershed Program described the upcoming wetland restoration planting that will take place in the park in the fall of 2006. The goal of the project is to create a wetland habitat by planting species that intentionally don't taste quite as appealing to the wildlife (grass carp and Muscovy ducks in particular) around the park. These species have destroyed previous planting initiatives. Plants currently on the list to be installed include swamp lily (*Crinum americanum*) and southern blue Iris (*Iris virginica*). After these two species have a chance to get established other plant species may be added at a later time.

The goal of the tour was to raise understanding regarding some of the issues the bayou and watershed are facing which includes shoreline erosion and stabilization, increased development pressures, and loss of wetland and natural areas. The tour could only provide a snapshot of what is currently occurring, but it definitely served as a vehicle to increase the awareness of the attendees. The Dickinson Bayou Watershed Partnership believes that events such as the tour, which are important for outreach and education, work to promote the protection, preservation and restoration of the quality of the Dickinson Bayou Watershed and its communities.

Research Examines Use of Recycled Water for Turfgrass Irrigation in San Antonio

Writer: Blair Fannin, b-fannin@tamu.edu
Contact: Jim Thomas, jc-thomas@tamu.edu

SAN ANTONIO – Maintaining high-quality turfgrass during the hot and dry summer months in Central Texas requires irrigation that increases demand on potable water supplies. But new Texas Agricultural Experiment Station research shows few adverse effects when recycled water is used on turfgrass in the Edwards Aquifer recharge zone.

The findings are significant, researchers say, because it could help reduce daily demands from the diminishing aquifer. The study examined Type 1 recycled water, known as municipally treated

wastewater, reclaimed water or effluent water. It's frequently used to irrigate large turfgrass areas, helping to save higher quality surface and groundwater for potable water use. With San Antonio's growing population requiring more water, maximum withdrawal rates have been imposed by the Edwards Aquifer Authority.

"One impetus for our study was the fact that two plants and a distribution pipeline have been built to produce and distribute recycled water throughout the metropolitan area," said Jim Thomas, Experiment Station scientist. Officials questioned whether customers on the recharge zone could use recycled water for irrigating turfgrass. Water officials' main concern was whether unwanted nitrates would penetrate the recharge zone and threaten drinking water.

"Basically, the answer is yes," Thomas said. "We found there were only slight increases in nitrates. We found it was reasonably safe to use on the location we studied. We had only a slight increase in the accumulation of salt and sodium in the soil."

Results also revealed a slight increase in potassium in leaf tissue, and "a little increase in salt leaching down to the groundwater table," Thomas said. "The majority of constituents remained within drinking water requirements," he said. "Thus, irrigation with recycled water wasn't going to pose a significant threat to groundwater."

Thomas, who partnered on the study with Dr. Richard White, Experiment Station scientist, said Type 1 recycled water receiving the highest treatment is rated safe for incidental human contact. The two-year study began in March 2002 and involved 18 field plots.

Irrigation treatments included potable water and recycled water applied at rates to replace evapotranspiration. In addition, the study included recycled water applied at a rate of 1.1 times the rate of evapotranspiration. Tifway Bermudagrass and Jamur Zoysiagrass, common grasses grown in the San Antonio area, were used in the study. Samples of runoff water, leachate water, and soil and leaf tissue were collected monthly and tested for nine nutrients and total salts.

Both water sources were found to be capable of producing high quality, "aesthetically pleasing turf," Thomas said, "when used with other appropriate management practices, such as

proper mowing and nitrogen fertilization." Increased amounts of total salts and were measured in soil samples where recycled water was applied, he said.

"Careful long-term salt management would be needed to prevent the accumulation of an excessive amount of total salts or sodium in the rootzone. Concentrations of all other nutrients in the soil were unaffected by irrigation water resources," Thomas said. The study was published in the July-August issue of Agronomy Journal.



The two-year turfgrass study began in March 2002 and involved 18 field plots. Irrigation treatments included potable water and recycled water applied at rates to replace evapotranspiration. (Texas Agricultural Experiment Station photo)

Experiment Station researchers teamed with the San Antonio Water System, Bladerunner Turf Farm, and consultants from CH2M HILL to complete the study.

July Water Quality Meetings in South East and South Central Texas

Clear Creek TMDL
TDS and Chlorides
July 11th, 7pm Pearland City Hall

Lavaca-Navidad River Authority
Clean Rivers Program Steering Committee
July 20th 1pm LNRA Headquarters, Edna

Upper San Antonio River WPP
July 24th 5-7 PM
San Antonio River Authority Boardroom

Announcements

EPA Approves Texas' 2004 List of Impaired Waters
On May 8, 2006, the U.S. Environmental Protection Agency approved the state's 2004 List of Impaired Waters. Texas submitted its 2004 List to the EPA in May 2005, in compliance with Section 303(d) of the Clean Water Act and with EPA guidance for the report. No water bodies were added or removed from the 2004 List as a result of the EPA's comments.

Contact Information

Brian Koch

Regional Watershed Coordinator

Texas State Soil and Water Conservation Board
Wharton Regional Office

1120 Hodges Lane
Wharton, TX 77488
Phone: 979-532-9496
Fax: 979-532-8765
E-mail: bkoch@tsswcb.state.tx.us
<http://www.tsswcb.state.tx.us/>

Nikki Dictson

Extension Program Specialist

Texas Cooperative Extension
Texas Watershed Steward Program

355A Heep Building, 2474 TAMU
College Station, TX 77843-2474
Phone: 979-458-3478
Fax: 979-845-0604
E-mail: n-dictson@tamu.edu
<http://watershedsteward.tamu.edu/>
<http://pcwp.tamu.edu/>

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