

Update and Status of Plum Creek Watershed Protection Plan

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Introduction

- Plum Creek was placed on the State of Texas 2004 303(d) List of Impaired Waters for exceeding the water quality standard for bacteria (*E. coli*) and does not support its designated use for contact recreation.
- Plum Creek is also listed for elevated nutrient concerns for nitrates and nitrites, ammonia, and total phosphorous.



Introduction

- Concerns for nutrients date back to the State of Texas 1998 305(b) report, which is a summary of all surface waters in Texas, and concerns for bacteria date back to the 2002 305(b) report.
- Based on monitoring conducted by the GBRA's Clean Rivers Program and the TCEQ, bacteria levels in Plum Creek exceed the stream standard of 126 org./100ml for contact recreation



Introduction

- As a result of these findings, the Wharton Regional Watershed Coordination Steering Committee facilitated by the TSSWCB, selected Plum Creek for a Watershed Protection Plan to address the bacteria impairment and nutrient concerns, and to protect Plum Creek from additional pollutant concerns posed by oil and gas production, increased urbanization, and agricultural non-point source pollution.
- This plan is being developed in collaboration with key stakeholders in the watershed, and with the overall goals being to remove Plum Creek from the 303(d) list and to restore and protect water quality.



Plum Creek Steering Committee

- The Plum Creek Steering Committee is the decision making body for the Plum Creek Watershed Process and will guide the project toward success.
- The goal of the Plum Creek Steering Committee and Partnership is to develop and implement a Watershed Protection Plan (WPP) for Plum Creek, segment 1810



What is a WPP?

- Watershed Protection Plans (WPP) address complex water quality problems that cross multiple jurisdictions
- The goal is to improve, restore or maintain good water quality within a particular watershed
- WPPs are tools to better leverage the resources of local governments, state and federal agencies, and non-governmental organizations
- WPPs are a voluntary, proactive approach to integrating activities and prioritizing BMP implementation





USEPA Nine Elements

- a. Identification of the causes that will need to be controlled to achieve the load reductions (b)
- b. Estimate of the load reductions expected for the management measures (c)
- c. Description of management measures that will need to be implemented to achieve the load reductions (b)
- d. Estimate of technical and financial assistance needed to implement this plan
- e. Information/education component that will be used to enhance public understanding of this plan





USEPA Nine Elements

- d. Schedule for implementing management measures (c)
- g. Description of interim, measurable milestones for determining whether management measures (c) are being implemented
- h. Set of criteria that can be used to determine whether load reductions (b) are being achieved
- i. Monitoring component to evaluate effectiveness of implementation measured against the criteria (h) established



How was Plum Creek Selected?

- A Regional Watershed Coordination Steering Committee (WCSC), composed of water quality monitoring and improvement partners from across the Wharton Regional Office (WRO) service area, was assembled
- WCSC includes other state agencies, federal agencies, river authorities, national estuary programs, and councils of governments
- WCSC developed a set of criteria to identify those watersheds that would most benefit from WPP development and implementation

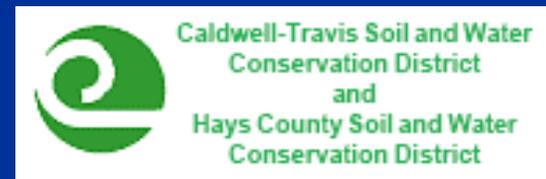


Why was Plum Creek Selected?

- Water quality impairment for bacteria
- Manageable size (388 mi²) and entire stream affected
- County Extension Agents have high involvement in water and land use change issues
- Water quality concerns nitrate+nitrite nitrogen, ammonia, total phosphorus
- Oil and Gas production is high in the area, potential concern
- Population is rapidly increasing in this area
- Location near Austin gives it “Good Marketing Value”



Project Partners



Plum Creek Watershed Partnership

- December 15, 2005 - Plum Creek was selected by the Wharton Regional WCSC as the pilot watershed
- January 6, 2006 - Meeting with Local County Agents, GBRA, and PCCD
- Watershed Tour with County Agents, GBRA, PCCD, Texas Parks and Wildlife and Tom Bonn, County Commissioner.
- January thru March – Meetings and Media Promoting Project including the website: <http://pcwp.tamu.edu>



Meetings Promoting Plum Creek Watershed Partnership

- Caldwell-Travis SWCD and Hays SWCD Board Meetings on January 11, 2006 and February 1, 2006
- Plum Creek Conservation District Board Meeting on Jan. 17
- Guadalupe Blanco River Authority Board Meeting on Feb. 15
- Guadalupe Blanco River Authority Clean Rivers Steering Committee Meeting March 23, 2006
- Hays County Wildlife Management Training on April 29, 2006
- Luling Kiwanis Club Meeting on May 10, 2006
- Luling Foundation Farm Field Day on May 18, 2006
- Kyle's Citizens Water Advisory Group Meeting on May 25, 2006
- TxDOT SH-130 Project Team



Media Promotion

- TCE News Releases since January
 - Jan. 27, 2006, Texas Cooperative Extension Partnering in Plum Creek Watershed Pilot Program
 - March 30, 2006, Public Invited to Join Plum Creek Watershed Project
 - April 13, 2006, Plum Creek Watershed Partnership Under Way; Meetings Set for Kyle and Luling
 - April 19, 2006, Media Advisory: Watershed Meetings Set for Kyle, Luling
 - June 5, 2006, Public Invited to Plum Creek Watershed Project Meeting
 - June 8, 2006, Preventive Measures Can Help Protect Plum Creek Watershed
- TSSWCB News Release in January 6, 2006 – Plum Creek Selected for Watershed Protection Plan



Websites and Brochures

- Created the Texas Watershed Steward Website <http://tws.tamu.edu> and informational brochure (fact sheet).
- Created the Plum Creek Watershed Partnership Website <http://pcwp.tamu.edu> and informational brochure (fact sheet).
- Mailed out 700 brochures and invitations to the three Public Meetings and resent them after the first meeting.



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MWS IN OTHER STATES

- ARIZONA
- OHIO
- OREGON
- MAINE
- WASHINGTON

TEXAS WATERSHED STEWARD

Water bodies within a watershed can be affected by many types of nonpoint source pollution. Recognizing these sources of pollution and methods for their control and prevention is critical. The Texas Watershed Steward (TWS) program is implemented through a partnership between [Texas Cooperative Extension](#) (TCE) and the [Texas State Soil and Water Conservation Board](#) (TSSWCB). This program provides science-based, watershed education to help citizens identify and take action to address local water quality impairments.



Public participation is the focus of the Texas Watershed Steward program. Active public participation in watershed management efforts through the development of a Watershed Protection Plan is the best means for addressing local water quality problems and concerns. The program enhances stakeholder involvement in the WPP development process by organizing and educating the local stakeholder group. The Texas Watershed Steward Program will educate stakeholders about the nature and function of watersheds, potential impairments and strategies for watershed protection. This program will lead to increased knowledge and understanding by individuals within the watershed including homeowners, agricultural producers, decision-makers, and community leaders regarding watershed principles and appropriate best management practices to prevent and correct impairments caused by nonpoint source pollution.

Texas Watershed Steward Website

Texas Watershed Steward Program

Support of Local Watershed Awareness and Implementation

The program will support local watershed implementation by:

- Enhancing local awareness
- Increasing involvement in watershed and water quality management and protection activities
- Identifying, coordinating and delivering watershed education workshops
- Promoting local activities such as stream walks and clean ups, soil testing campaigns, well testing and abandoned well closure programs, etc.





plum creek watershed partnership

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PROJECT OVERVIEW

MEETINGS

WATER QUALITY

NEWSLETTER

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PARTNERS

plum creek watershed partnership

The Plum Creek Watershed Partnership supports the development of a Watershed Protection Plan (WPP) and promotes a sustainable, proactive approach to improving water quality at the local level. A steering committee made up of local stakeholders will assess the water quality issues and develop the WPP. The WPP will determine necessary education and awareness campaigns, best management practices, and other measures to be implemented to improve and protect the water quality in Plum Creek. Texas State Soil and Water Conservation Board (TSSWCB) and Texas Cooperative Extension have partnered to facilitate plan development and education and awareness, along with the TSSWCB Wharton Regional Office- Watershed Coordination Steering Committee.

Plum Creek rises in Hays County north of Kyle and runs south through Caldwell County, passing Lockhart and Luling, and eventually joins the San Marcos River at their confluence in north Gonzales County. Plum Creek is 52 miles in length and has a drainage area of 397 square miles. According to the draft 2004 Texas Water Quality Inventory and 303(d) List, Plum Creek (Segment 1810) exhibits elevated nutrient levels and is impaired by elevated bacteria concentrations. These water quality issues, in conjunction with land use across the watershed, increasing urban development, oil and gas production and potential for agricultural nonpoint source pollution, were considered when Plum Creek was selected for the WPP process.



Plum Creek Watershed Partnership Meetings

- April 2006 – Three Public Meetings in Watershed (116)
- May 9, 2006 – First Steering Committee Meeting (49)
- June 20, 2006 – Steering Committee Meeting/Work Groups (42)
- July 2006 – Five Work Group Meetings
- July 27, 2006 – Watershed Tour (62)
- August 2006 – Selected as Pilot Watershed for Tri-Agency Water Quality Team (EPA, TCEQ, & TSSWCB)
- August 10, 2006 – Second Steering Committee Meeting (45)

Plum Creek Watershed Partnership

- September 2006 – Five Work Group Meetings
- October 26, 2006 – Steering Committee Meeting
- November 2006 – Five Work Group Meetings
- December 14, 2006 – Steering Committee Meeting
- January 2007 – Five Work Group Meetings
- February 2007 – Members Review WPP
- March 8, 2007 – Steering Committee Meeting
- April 2007 – Five Work Group Meetings

Steering Committee

- Steering Committee has 27 members
 - Members are composed of local landowners, city representatives, county commissioners, GBRA, PCCD, local businesses, etc.
 - Members developed, approved, and signed a “Ground Rules” document defining their roles.
 - Facilitated Steering Committee to identify key areas of concern for formation of Workgroups.



Workgroups

- 5 Workgroups established
 - Outreach and Education
 - Urban Stormwater and NPS
 - Agriculture NPS
 - Wastewater Infrastructure and Industry
 - Water Quality and Habitat
- Composition: Steering Committee members, other interested stakeholders and agencies.



Work Group Tasks

- Identify pollutant sources
- Gather data and information and identify gaps
- Estimate pollutant loads
- Set Goals and Objectives
- Identify BMPs that could be implemented to reduce pollution
- Identify Outreach and Education that is needed
- Develop an Implementation Schedule



Texas Watershed Steward Modules:

- Working Through a Watershed Action Group and Conflict Resolution
- Principles of Watershed Hydrology
- Primary Nonpoint Source Pollution Types
- Regulatory structure, laws and policy impacting water
- Water Quality Testing and Monitoring
- Agricultural BMPs for Protecting Water Quality and Quantity
- Residential BMPs for Protecting Water Quality and Quantity
- Stream and Wetland Evaluation, Clean-Up and Restoration
- Well-head Identification and Protection
- Riparian Area Management for Protecting and Improving Water Quality
- Small Acreage Water Quality Stewardship



Watershed Tour

- Requested by Steering Committee
- On July 27 from 9:00 am to 4:00 pm.
- Tour Stops included:
 - Plum Creek Subdivision in Kyle at headwaters
 - GBRA's Plum Creek Sampling Site near Umland
 - Bar-B-Que Lunch at Smitty's provided by GBRA
 - Local Historian presentation by Donaly Brice
 - Lockhart Springs in Lockhart
 - Don Meador's Agricultural Livestock Operation at his Lease Property along a major tributary of Plum Creek
 - Drive on south eastern side of Watershed / Oil Wells
 - Lockhart WWTP Tour by GBRA



Texas Department of State Health Services Fish Consumption Advisories

- <http://www.tdh.state.tx.us/bfds/ssd/fiscount.html>
- There are no fish consumption advisories for Plum Creek on the website
- There have not been any studies or assessments in the Plum Creek Watershed
- TCEQ is working on putting Plum Creek on the list for a phase 1 assessment, so it will be assessed in the future.



USGS Gage 08172400 on Plum Creek

- Through TCEQ, we became aware USGS had listed this gage, which has a 46-year record, for discontinuation in October 2006.
- This led to discussions with USGS and USGS indicated they were aware of this Plum Creek WPP project and would forego discontinuation this next fiscal year.
- However, this would not exclude USGS, and the funding partner TWDB, from potentially including this gage on next year's list.
- TSSWCB, TX DOT, GBRA and others will continue discussions to keep the USGS Gage.



Modeling

- Spatially-explicit Geographic Information System (GIS) methodology – SELECT
 - to identify areas with highest potential load
- Load Duration Curves
 - to establish load reductions to meet water quality standard;
- Soil and Water Assessment Tool - SWAT
 - has not been used to date, but potential to identify areas to benefit most from BMP implementation



Plan Development

- Initial Draft of the WPP was sent out for comments and review to the stakeholders in February, focusing on the background sections of the plan
- Writing of the Plan continues with guidance from the partnership and analysis results
- Process does not move forward until majority of stakeholders' approval is achieved



Marketing Campaign

- Outreach and Education Work Group created a branding survey.
- The survey was given to the rest of the work groups to fill out with responses and sent to the partnership by email.
- Worked on logo options and sent out to the partnership for a vote.
- And the new logo.....



New Logo





Partners



Websites

Plum Creek Watershed Partnership

-<http://pcwp.tamu.edu>



Texas Watershed Steward

-<http://mws.tamu.edu/>



TSSWCB Watershed Protection Plan Page

-<http://www.tsswcb.state.tx.us/wpp>



WRO Watershed Coordination Steering Committee

-<http://www.tsswcb.state.tx.us/cwp>

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Thanks!

Questions?

