

# Plum Creek Watershed Partnership

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## Contact Information

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The Plum Creek Watershed Partnership, a collaboration between local citizens and entities, state and federal agencies, was established in April 2006 to address water quality issues in Plum Creek through the development and implementation of a Watershed Protection Plan (WPP). A major tributary of the San Marcos River, the 397 square mile Plum Creek watershed lies within the larger Guadalupe River Basin and covers portions of Hays and Travis Counties and much of Caldwell County.

Based on routine water quality sampling, Plum Creek is impaired by elevated bacteria concentrations and has nutrient enrichment concerns. High bacteria concentrations do not support contact recreation use and high levels of nutrients can cause excessive growth of aquatic vegetation leading to a decreased ability to support aquatic life use.

A Steering Committee, created as the decision-making body for the Partnership, has been meeting bi-monthly in order to 1) identify desired water quality conditions and measurable goals, 2) prioritize appropriate best management practices and needed education and awareness programs to achieve those goals, 3) assist in the development of the WPP document, 4) lead implementation of the plan at the local level, and 5) communicate implications of the WPP to other interested individuals and groups within the Plum Creek Watershed.

## Watershed Planning & Implementation Process

- 1) Build Partnerships
- 2) Characterize the Watershed
- 3) Finalize Goals and Identify Solutions
- 4) Design an Implementation Plan
- 5) Implement Watershed Plan
- 6) Measure Progress and Make Adjustments

Topical work groups were created by the Steering Committee to study specific issues, identify and make recommendations on implementation strategies, and support development of the WPP. The five work groups established are Outreach and Education, Agricultural Nonpoint Source, Urban Stormwater and Non-point Source, Wastewater Infrastructure and Industry, and Water Quality and Habitat. A Technical Advisory Group consisting of state and federal agencies with water quality responsibilities provides guidance to the Steering Committee and work groups, and answers questions related to matters falling under the jurisdiction of each agency.



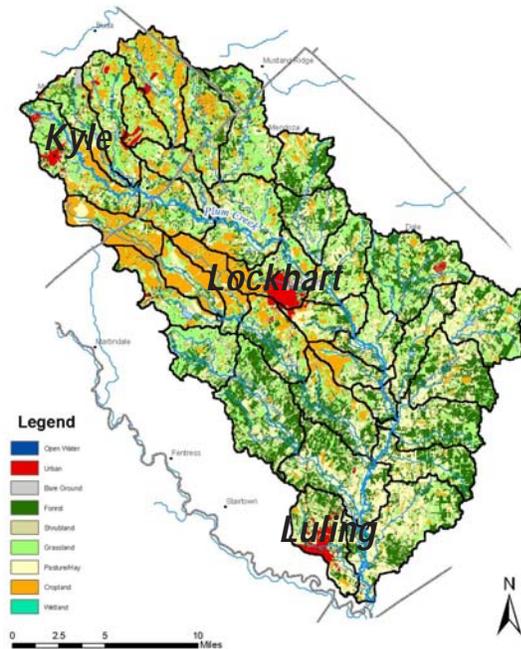
Based on 2004-2005 data, major land uses in the Plum Creek watershed include rangeland (38%), forestland (23%), pastureland (17%), cropland (11%) and developed/urbanized (8%). Current agricultural land uses include beef cattle and hay production in addition to row cropping of corn, sorghum, wheat, and cotton. Extensive oilfields have been developed in an area running southwest to northeast across the watershed, north of Luling.

Though the area has a largely agricultural history and remains heavily influenced by farming and livestock, some portions of the watershed are experiencing significant urbanization. Northern areas of the watershed, particularly near Kyle and along the Interstate 35 corridor, have been marked by rapid suburban growth, with city populations rising quickly over only a few years. As development and population growth continue, the percentage of urban land use will rise and play an increasingly important role in the hydrology and water quality of Plum Creek and its tributaries.



Through a federal Clean Water Act §319(h) grant from the Texas State Soil and Water Conservation Board, Texas Cooperative Extension, is facilitating the stakeholder process and technical analysis of water quality data and potential pollutant sources. Load Duration Curves are being developed to examine the relationship between stream flow and monitored concentrations of particular pollutants, including bacteria. By considering what processes are at work during high, intermediate, and low flows, it is possible to link high concentrations with potential point source or nonpoint source pollution contributors.

### Plum Creek Watershed Land Use Map



To more specifically identify pollutant contributions, the SELECT (Spatially Explicit Load Enrichment Calculation Tool) approach was developed to estimate potential contaminant loads from various sources. Using the best available data for numbers and estimated distributions of livestock, wildlife, human households, pets, and septic systems, as well as the location of permitted wastewater treatment facilities, a pollutant load is estimated for each potential source and then compared across different subwatersheds and to each other. Using this approach, areas with the greatest potential for impacting water quality can be identified, and major contributors in those areas can be selected for the implementation process.

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