



# The Plum Creek Watershed

## Your Water, Your Home

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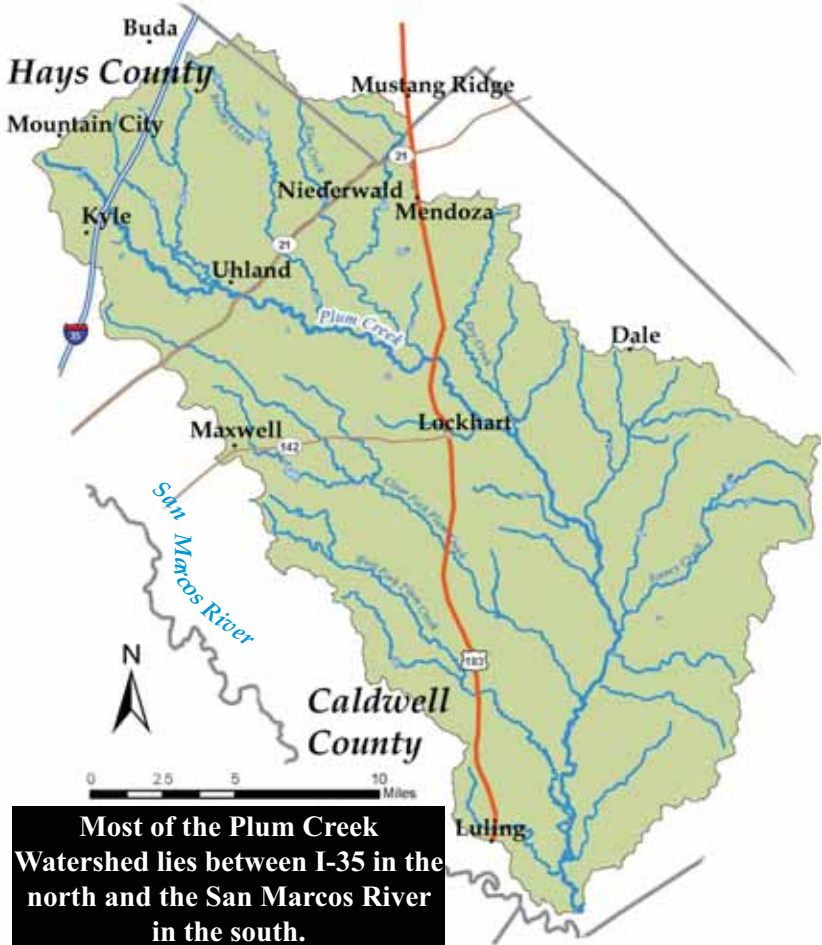


# The Plum Creek Watershed

Most of Caldwell County and parts of Hays and Travis Counties are in the Plum Creek Watershed, a roughly 400 square mile area that drains to Plum Creek, which in turn flows to the San Marcos River. All water that falls as rain or rises from springs makes its way to this common point after draining both rural and urban areas around Kyle, Lockhart, Luling, and many smaller communities.

Since long before the watershed resembled what it does today, Plum Creek has been an important part of the local landscape. Abundant freshwater springs flowing into Plum Creek around present day Lockhart have attracted people for hundreds of years. Plum Creek continues to play a critical role in the area, and the largest cities in the watershed are found very close to the stream and its tributaries. Water from the Plum Creek Watershed can be used for drinking water, irrigating both agricultural crops and lawns, watering livestock, and recreational purposes.

Because there are many different ways people use the Plum Creek Watershed and its water resources, there are many ways it can be affected. People that live, work, or play in the Plum Creek Watershed influence how much water is in the stream and how clean it is, both now and in the future.



# Water Pollution in Plum Creek



Nikki Dickson

The Plum Creek Watershed Partnership receives information to help make decisions that improve water quality.

After high nutrient levels were found in Plum Creek in 1998, the Texas Commission on Environmental Quality also became concerned about *E. coli* bacteria in 2002. High levels of bacteria can pose a serious disease risk to humans, while nutrients (nitrogen and phosphorus) can cause excessive aquatic plant growth and lead to fish kills. By 2004, parts of Plum Creek in both urban and rural areas were classified as not meeting bacteria limits for recreation (swimming and wading). Nutrient levels also have remained high and pose a threat to stream health.



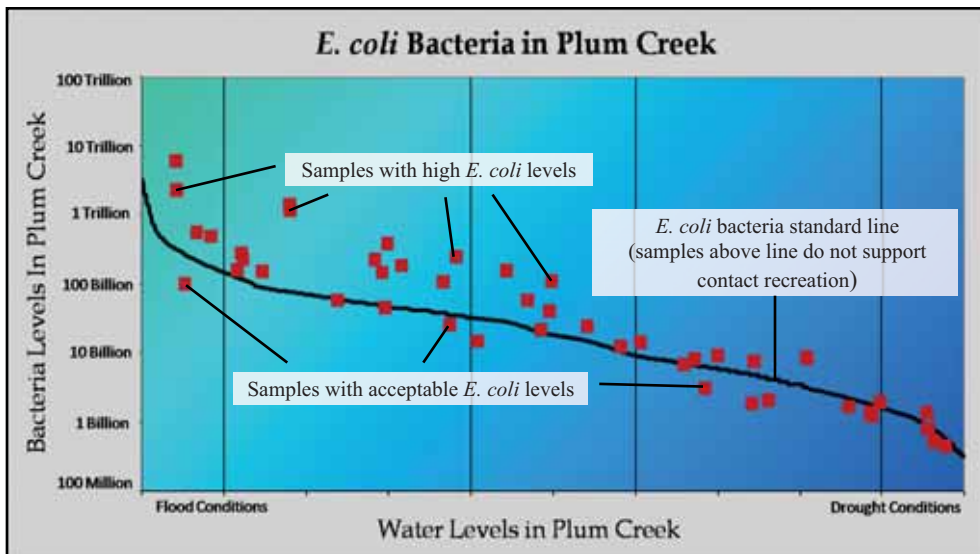
Mart Berg

High pollution levels are found during many different flow conditions, with bacteria highest during floods and nutrients highest during droughts.

To focus on cleaning up water in the stream, the Texas AgriLife Extension Service partnered with the Texas State Soil and Water Conservation Board to assemble a group of local citizens, city and county officials, and regional and state agencies. The resulting Plum Creek Watershed Partnership began to identify the causes of water pollution and develop strategies to increase awareness and improve conditions in Plum Creek. These strategies were used to create the Plum Creek Watershed Protection Plan, which details ways to work toward cleaning up the stream now and protecting it from pollution in the future.

of pollution occur. In water samples collected along Plum Creek, pollution is found both at low flows during dry periods and at high flows during floods. This means that some pollution enters Plum Creek directly when the creek is low and some flows to the stream in runoff that washes bacteria and nutrients off the land during rainfall.

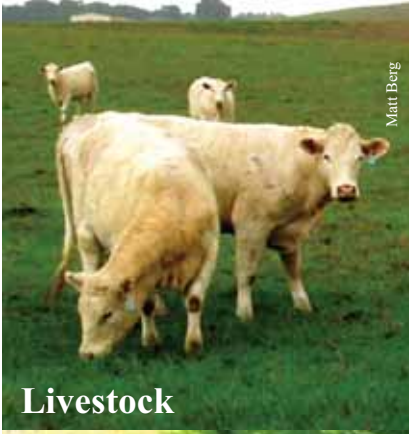
The Plum Creek Watershed Partnership began gathering information on the ways people use land in the watershed and when the highest levels



In certain locations, pollution levels are high throughout the year, regardless of flow.

Left: Load Duration Curves are used to show when pollution levels in Plum Creek are higher than acceptable limits.





Matt Berg

Livestock



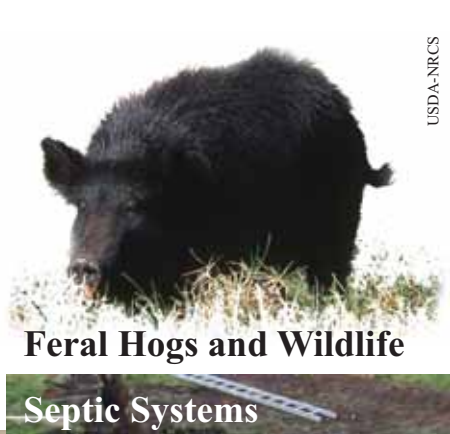
Matt Berg

Row Crops



JupiterImages

Pets



USDA-NRCS

Feral Hogs and Wildlife



Matt Berg

Lawn Care



Matt Berg

Wastewater Treatment Plants



Nick Gray

Septic Systems

## Sources of Pollution

Some sources of water pollution are located close to the stream, like wastewater treatment plants and groups of feral hogs, and can impact water quality directly. Other sources, which can be much farther away, increase water pollution levels when runoff during and after rain showers or thunderstorms carries pollution to Plum Creek and smaller streams that flow into it. Pollution from neighborhoods, city streets, cropland, and pastures is picked up and washed to the closest stream. *E. coli* bacteria in waste materials from livestock, wildlife, pets, and people (leaky septic systems) and fertilizers and other chemicals from lawns and landscapes, parks, cropland, and industrial sites can all add to the problem, regardless of where they are on the landscape.

Like most other watersheds, Plum Creek has many potential sources of *E. coli* bacteria and nutrients. As a result, everyone who lives, works, and plays in the watershed has an important role in preventing water pollution and protecting Plum Creek. Actions you take around your home, place of business, and where you and your family play can add pollution, unless you act responsibly. Join with others across the watershed as they move forward in implementing the Watershed Protection Plan. Do your part to protect water resources and preserve the Plum Creek Watershed for future generations! To view the Plum Creek Watershed Protection Plan and learn more about efforts to protect water quality, visit <http://plumcreek.tamu.edu/>.



Peter French

Urban Runoff



## What You Can Do

*Learn more about your watershed  
Get involved in a local watershed group*

*Pay special attention to what you do around the house or where you work*

### *Around the house:*

- ◆ When landscaping, use native plants that can tolerate drought and local soil conditions.
- ◆ Mulch bare soil or provide plant cover to reduce soil loss.
- ◆ If a herbicide is needed to kill weeds, choose one that kills the species in question and use sparingly.
- ◆ Do a soil test of your lawn and only use the necessary amount of the recommended fertilizer.
- ◆ Do not pour unwanted hazardous chemicals on the ground or down the drain. Instead, take them to special collection events in your city or county.
- ◆ Water your lawn only when necessary and keep water from falling on sidewalks, driveways, and streets.
- ◆ Pick up and properly dispose of pet waste to prevent bacteria and viruses from affecting Plum Creek, other animals, and you.
- ◆ Fix leaky bathroom fixtures and report broken sewer pipes so they can be replaced.

### *If you raise livestock:*

- ◆ Use a proper animal stocking rate, and do not overgraze pastures, which causes soil loss and pollution.
- ◆ Use cross-fencing, and rotate animals between pastures to give grass time to recover after grazing.
- ◆ Minimize animal access to streams and drainage areas to reduce the potential for water pollution.

### *If you grow crops:*

- ◆ Do a soil test of your fields or pastures and only use the necessary amount of the recommended fertilizer (*more fertilizer does not always equal more yield*).
- ◆ Conduct integrated pest management and choose the appropriate pesticide, applying it at the proper rate and time.
- ◆ Use minimum tillage or no tillage after harvesting to prevent loss of valuable soil and nutrients.
- ◆ Plow and plant along the contours of the land rather than planting up and down slopes. This will help retain soil, water, and nutrients.
- ◆ Use a cover crop of grasses or legumes after harvesting for seasonal protection from soil loss.
- ◆ Use filter strips or buffer strips where possible along streams and drainages to retain soil, water, and nutrients.

### *If you have a septic system:*

- ◆ Inspect your septic system every year, preferably using a certified professional.
- ◆ Avoid using an in-sink garbage disposal, which can cause septic system failure.
- ◆ Have your system pumped out every 3-5 years.
- ◆ Do not dump toxic products down drains or toilets, since these can kill the treatment process.
- ◆ Do not drive or build on the drainfield, since this can crush the septic system and require replacement.

**YOU ARE PART  
OF THE SOLUTION!**



## For More Information

Watershed Protection Plan and ongoing efforts in the watershed: **Plum Creek Watershed Partnership**  
<http://plumcreek.tamu.edu>

Educational public outreach events in the watershed and soil testing campaigns: **Texas AgriLife Extension Service**  
(Caldwell County) <http://caldwell-tx.tamu.edu/> (512) 398-3122  
(Hays County) <http://hays-tx.tamu.edu/> (512) 393-2120

Flood prevention/groundwater management in the Plum Creek Watershed: **Plum Creek Conservation District**  
<http://pccd.org/> (512) 398-2383

Water quality and conservation efforts in the Guadalupe River Basin: **Guadalupe-Blanco River Authority**  
<http://www.gbra.org> (800) 413-5822

Preventing/reducing water pollution in agricultural/forestry areas: **Texas State Soil and Water Conservation Board**  
<http://www.tsswcb.state.tx.us> (800) 792-3485  
(Caldwell-Travis Soil and Water Conservation District) (512) 398-4176  
(Hays County Soil and Water Conservation District) (512) 392-3202

Other state programs to prevent and reduce water pollution: **Texas Commission on Environmental Quality**  
<http://www.tceq.state.tx.us> (512) 239-1000  
**24-hour Hotline** (888) 777-3186

Reporting a pollution spill or fish kill: **Texas Parks and Wildlife Department Kills and Spills Team**  
[http://tpwd.state.tx.us/landwater/water/environconcerns/kills\\_and\\_spills/](http://tpwd.state.tx.us/landwater/water/environconcerns/kills_and_spills/) (512) 389-4848

Programs for the conservation and responsible development of water: **Texas Water Development Board**  
<http://www.twdb.state.tx.us/home/index.asp> (512) 463-7847

Federal programs to improve, protect, and conserve natural resources: **USDA-NRCS**  
<http://www.tx.nrcs.usda.gov/Programs/> (254) 742-9800  
(Lockhart Service Center) (512) 398-4176  
(San Marcos Service Center) (512) 392-3202

Federal environmental programs: **United States Environmental Protection Agency Region 6**  
<http://www.epa.gov/Region6/> (800) 887-6063



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