



Golden Triangle

BMP Informer

Serving Hardin, Jefferson and Orange Counties

Updating FOREST LANDOWNERS on Forestry and Water Quality Issues

TEXAS FOREST SERVICE Best Management Practices Project P.O. Box 310 Lufkin, TX 75902 sharrington@tfs.tamu.edu

Watch Word... TMDL

A Total Maximum Daily Load or TMDL is the total amount of pollution (load) that a stream can handle in any given day without harming its beneficial uses, such as swimming, drinking or fishing.

Land disturbing activities such as farming, mining, highway construction and forestry have the potential to cause erosion and stream sedimentation. Sedimentation is only one kind of pollution that TMDLs address. Others include heavy metals, a lack of oxygen in the water and even bacteria. Basically anything in the water that makes it unsuited for its intended use is a pollutant.

Best Management Practices, or BMPs, are specially designed practices that reduce and eliminate this type of water pollution. For example, we have all seen the silt fences along the roadway during highway construction. There is a set of voluntary guidelines designed specifically for forestry in Texas.

Improving Water Quality in Adams and Cow Bayous A TMDL Project for Bacteria, Dissolved Oxygen and pH

The state of Texas requires that most streams, lakes, and bays be suitable for swimming, wading, fishing, and a healthy aquatic environment. However, in two bayous in Orange County—Adams Bayou (Segment 0508) and Cow Bayou (Segment 0511) and most of their associated tributaries—low dissolved oxygen levels indicate that existing conditions are not optimal for aquatic life, and concentrations of bacteria pose a potential health risk for swimmers. In Cow Bayou, pH values are also occasionally lower than the criteria established to protect general water uses.

In response to these conditions, a total maximum daily load (TMDL) project has been initiated to determine the measures necessary to restore water quality in these bayous. The goal of a TMDL is to determine the amount (or load) of a pollutant that a body of water can receive and still support its designated uses. The allowable load is allocated among all the potential sources of pollution within the watershed, and measures to reduce pollutant loads are developed.

Oxygen, which dissolves in water, is essential for the survival of aquatic life. While the amount of dissolved oxygen in water fluctuates naturally, various human activities can cause unusually or chronically low dissolved oxygen levels, which may harm fish and other aquatic organisms.

Bacteria from human and animal waste often indicate the presence of disease-causing microorganisms that pose a threat to public health. People who swim or wade in the bayous may be at risk.

Although not a pollutant, pH plays a key role in the health of an aquatic ecosystem. The level of pH in a water body indicates its acidity or alkalinity. An appropriate level of pH acts as a buffer for certain pollutants. For example, certain chemicals and metals are more toxic to aquatic life at lower pH values than at high pH values.

Learn more about water quality standards and monitoring by reading *Clean Water for Texas: Working Together for Water Quality*, available on the web at www.tceq.org/goto/tmdl/.

Certified Forest Steward

The Certified Forest Steward program will identify and reward landowners who follow a written Stewardship plan. Once you have a Stewardship plan, you can request certification or be nominated by a local resource professional, consultant, or county agent. All TFS district offices have the nomination forms. Nomination forms and an overview of the program can also be obtained on the TFS website: <http://texasforestservicetamu.edu/shared/article.asp?DocumentID=472&mc=forest>.

The form requires a list of your Stewardship practices that have been installed in the last five years plus a copy of your Stewardship plan.

Each accomplishment will be awarded points based on importance to proper land management. Of course, BMPs are a part of the point system. For example, a thinning using BMPs to improve a timber stand is worth more points than fencing to manage woods grazing. Any practice that has the potential to affect water quality must use BMPs for your nomination to be considered.

If you qualify, you will be presented a "Forest Stewardship" sign for your property and a certificate at a public ceremony of your choice.

For more information about obtaining your own Stewardship plan and becoming a Certified Forest Steward, contact your local TFS district office or TFS Stewardship Coordinator Brad Barber in College Station at (979) 458-6650 or bbarber@tfs.tamu.edu.

Improving My Land

Managing Streamside Management Zones

Streamside management zones (SMZs) provide a protective, vegetated buffer around a stream or river. The flexibility of voluntary BMP guidelines allows you and your forester or logging contractor to manage these buffer strips. In meeting objectives like maximum return on your timber investment or forest health improvement, trees within the SMZ may be selectively thinned.



Thinning Recommendations

In many instances, the majority of the trees along your streams may be hardwoods. Hardwood trees may have lower economic value than pines, but have high wildlife and aesthetic value. In cases like this, thinning pine trees and leaving hardwoods can create both economic return as well as retain wildlife habitat and aesthetic value.

If the trees within the SMZ are mainly pines, removing all of them may jeopardize the functions of the SMZ. In this case, pine trees can be selectively thinned, leaving at least 50% of the original crown cover.

Be sure to talk to your forester or logging contractor about thinning within your streamside management zone.

Texas Forest Service BMP Effectiveness Monitoring Project

For almost 15 years, the Texas Forest Service has promoted the use of Best Management Practices (BMPs) to prevent or reduce the amount of water pollution when conducting forestry operations. While it is common knowledge that BMPs are an effective and practical means of mitigating forestry non-point source pollution, there is no quantifiable data to substantiate their obvious aesthetic improvements.

The Texas Forest Service recently began a stream monitoring project designed to test the effectiveness of the state recommended BMPs. Four sites under intensive forest management located in Cherokee, Houston, Jasper, and Newton Counties are undergoing rigorous habitat assessments, biological, and physiological monitoring before and after forestry operations. Sites were selected that encompassed the higher topography and erodibility hazards found in East Texas forestlands. Each site has a designated reference (above the treatment area) and test (below the treatment area) section.

Method, frequency, and parameters that will be monitored on the four sites:

Method	Frequency	Parameters
Habitat Assessment	Twice per year (spring and fall)	Texas Commission on Environmental Quality method
Biological Sampling	Twice per year (spring and fall)	Aquatic insects, fish
Physiochemical – Grab Samples	Monthly	Dissolved oxygen, pH, conductivity, temperature, turbidity, total nitrogen, total phosphorous, total suspended solids
Physiochemical – Strom Samples	After storm events (15-20 storm events estimated per year)	Total nitrogen, total phosphorous, total suspended solids

Statistical analysis is performed comparing the habitat assessment, biological, and physiochemical “test” section results on each of the four project sites before and after the treatment to see if they are significantly different. This same analysis is used to test for differences between the reference and test sections within sites, so that any changes due to natural variability in the test section are not falsely attributed to a treatment effect. A final report is to be produced in spring 2008 documenting the results of this 4-year project.

Distribution of the *Golden Triangle BMP Informer* is provided free of charge to forest landowners of Hardin, Jefferson and Orange Counties. Funding has been provided through cooperation of the Environmental Protection Agency (EPA), the Texas State Soil and Water Conservation Board (TSSWCB) and the Texas Forest Service (TFS). PLEASE ADVISE US IF YOU WISH FOR YOUR NAME TO BE REMOVED FROM OUR MAILING LIST.

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Forestry Acronyms

BMP	Best Management Practices	TFA	Texas Forestry Association
CFLOA	County Forest Landowner Association	TFS	Texas Forest Service
FIP	Forestry Incentives Program	TLC	Texas Logging Council
FSA	Farm Services Agency	TMDL	Total Maximum Daily Load
NIPF	Nonindustrial Private Forest (landowner)	TNRCC	Texas Natural Resource Conservation Commission
NPS	Nonpoint Source (pollution)	TRe	Texas Reforestation Foundation
NRCS	Natural Resources Conservation Service	TSSWCB	Texas State Soil and Water Conservation Board
SFI	Sustainable Forestry Initiative	WHIP	Wildlife Habitat Incentives Program
SIP	Stewardship Incentives Program	WQMP	Water Quality Management Plan
SMZ	Streamside Management Zone	WRP	Wetlands Reserve Program
SPB	Southern Pine Beetle		
SWCD	Soil and Water Conservation District		