



Lake Livingston

BMP Informer

Serving Grimes, Houston, Leon, Madison, Polk,
San Jacinto, Trinity, and Walker Counties

Updating FOREST LANDOWNERS on Forestry and Water Quality Issues

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

Seedlings On-line!

The Texas Forest Service is currently accepting on-line pine and hardwood seedling orders on the TFS website at http://txforestservicetamu.edu/forest_management/indian_mound_nursery/index.html. Special features of the on-line service include: volume discounts, flexible payment methods, flexible shipping methods, automatic e-mail notification, a secure website, and facilitated customer access.

The Texas Forest Service Indian Mound Nursery near Alto will produce pine, containerized longleaf, containerized loblolly and 28 species of hardwood seedlings this year. The planting season for northeast Texas runs December through March; southeast Texas planting season runs December through February because of the warmer climate. Seedlings may be purchased from the TFS website, through a local Texas Forest Service office, or by calling the Indian Mound Nursery at (936) 858-4202.

★ Remember BMPs When Planting ★

Landowners and contractors should also keep water and soils in mind when planting and preparing to plant. There are Best Management Practices to follow during these operations.

Remember these points when doing site preparation and planting:
In general -

- Mark boundaries of all streamside management zones (SMZ) clearly before site preparation activities.
- Plan ahead to minimize disturbance by equipment in SMZs.
- Site preparation activities should skirt SMZs and stream channels. Any debris should be placed above the ordinary high water mark of any stream or body of open water.
- Any site preparation practices and planting should be done following the contour of the land.
- Avoid intensive site preparation on steep slopes and on slopes with thin or highly erodible soils.
- Hand plant excessively steep slopes and wet sites.

When using prescribed fire –

- Firebreaks should have water control structures (water bars, wing ditches, etc.) in order to minimize erosion.
- Burning in an SMZ reduces the filtering capacity of the ground covering. Plan burns to minimize impacts on the SMZ.
- Avoid, when possible, site prep burns on steep slopes or highly erodible soils.

When using chemicals –

- Carefully plan application to avoid direct and indirect entry of chemicals into streams and impoundments.
- Avoid applying chemicals to vegetation protecting eroded slopes, gullies, drainages, and other fragile areas subject to erosion.

How Do I Know What Size Culvert I Should Use?

The most critical factor in installing a culvert is correct sizing. Purchasing and installing a poorly-sized culvert can be a waste of time, money, and effort. Three factors determine what size is correct – drainage area, soil type, and slope.

Step 1: *Figure drainage area.*

Most of you who know your property well can estimate the number of acres of watershed or drainage area. If you need help, contact your local TFS or NRCS office.

Step 2: *Determine the soil type.*

Grab a few handfuls of soil to tell if it feels like clay, sand, or a mixture of both. Heavier clay soils require larger culverts.

Step 3: *Figure the slope.*

Estimate the average slope of the drainage area. Steeper slopes require larger culverts.

The following gives proper culvert size for moderate slopes (5-15%) and medium soils:

<i>Area Drained (ac.)</i>	<i>Culvert Diameter (in.)</i>
10	24
30	30
50	36
75	42
100	48

Improving My Land

Permanent Stream Crossings

Two types of stream crossings that minimize stream sedimentation and provide dependable access are culverts and geoweb. When sized to proper length and diameter for the stream drainage area, culverts can provide excellent access across streams (see left column). Different types and sizes are available for various needs, ranging from 18-inch diameter galvanized steel to 10-foot diameter tank cars.



Geoweb can provide a permanent low-water crossing or ford that minimizes stream sedimentation. The plastic material forms a honeycomb-shaped mat that is filled with soil or gravel to form a solid road base. Best used in crossings with flat approaches to the stream, properly installed geoweb allows permanent access across a stream, even for a fully-loaded log truck.



Forestry and Water Quality Protection in East Texas

The increased demands on water resources in Texas may lead to a limited supply of available freshwater for future populations. Many approaches, including the highly controversial Marvin Nichols Reservoir in Northeast Texas, are being considered as possible solutions to this problem. The forestry community is doing its part to ease this burden by protecting water quality through the use of forestry Best Management Practices.

A report released by the Texas Forest Service titled “Voluntary Implementation with Forestry Best Management Practices in East Texas”, shows that the forestry community has achieved the highest rating ever for protecting water quality. Nine out of ten sites that involve forestry activities participate in environmentally sound practices.

Forestry Best Management Practices (BMPs) are practices determined to be an effective and practical means of preventing or reducing the amount of water pollution generated by forest management. In 1992, the Texas Forest Service started the Best Management Practices Project, which encourages landowners to protect water quality through voluntary means. This project provides technical assistance to landowners, professional workshops for loggers, public education, and random forestry site inspections.

The TFS project monitors 150 sites every two years to measure how well voluntary efforts are protecting water quality. Sites were chosen randomly throughout east Texas based on the annual timber harvest of each county. The three ownership groups that were targeted are public (national forests), forest industry (Temple Inland Forests, International Paper Company, and Louisiana Pacific Corporation), and private landowners.

Public ownership had the highest rating (98.4%) in protecting water quality, followed by forest industry (96.1%) and private landowners (86.4%). The three groups had a combined rating of 91.5%. Ratings are significantly higher when:

- a professional forester is used
- the logger has attended the Best Management Practices workshop
- the landowner is familiar with Best Management Practices
- the landowner is a member of a forestry organization
- Best Management Practices are included in the timber sale contract
- the timber is delivered to a major Sustainable Forestry InitiativeSM mill.

Education is the key to continued success in this project. According to the report, “continuing effective educational programs for non-industrial private landowners and BMP training for loggers can minimize water quality impacts from silvicultural operations.” To view a copy of this report, visit the Texas Forest Service webpage at:

http://txforestservicetamu.edu/forest_management/best_management_practices/bmp_implementation_monitoring.html

Distribution of the *Lake Livingston BMP Informer* is provided free of charge to forest landowners of Grimes, Houston, Leon, Madison, Polk, San Jacinto, Trinity, and Walker Counties. Funding has been provided through cooperation of the Environmental Protection Agency (EPA), the Texas State Soil & Water Conservation Board (TSSWCB) and the Texas Forest Service (TFS). PLEASE ADVISE US IF YOU WISH YOUR NAME REMOVED FROM OUR MAILING LIST.

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Culvert Installation



When installing a pipe culvert, soil should be compacted at least halfway up the side of the pipe. Cover equal to a minimum of half the culvert diameter should be placed above the culvert (but preferably one foot of fill per foot of culvert diameter). Never use less than one foot of cover.

For multiple-pipe installations, the distance between pipes should be a minimum of half the pipe diameter.