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Streamside Management Zones and Forest Landowners



Protecting water quality in Mississippi is everyone's responsibility. As a forest landowner, you can make sure any activity, such as harvesting trees, does not negatively affect the quality of Mississippi's water. Forestry experts have developed strategies and management practices to reduce the amount of nonpoint source pollution from forest management. These practices are called best management practices (BMPs).

Nonpoint source pollution (NPS) can take many forms and cannot be traced to one source or point. Increased sediment, organic matter, and temperature are just a few possible forms of NPS pollution. Landowners, foresters, and loggers can use streamside management zones—areas of vegetation along streams and other bodies of water—to protect against NPS pollution caused by land management practices (**Figure 1**).



Figure 1. Aerial view of streamside management zones after a harvest.

How Do Streamside Management Zones Work?

Effective streamside management zones have trees, brush, grass, and groundcover that help stabilize soil next to a stream (**Figure 2**). These trees, brush, grass, or groundcovers slow surface runoff and serve as filters. The streamside management zone lets NPS pollution settle out before reaching the stream.

Another benefit of streamside management zones is the shade they provide. Aquatic plants and animals have adapted to the “natural” temperature of a stream. Over time, vegetation along each stream has regulated this temperature by restricting sunlight reaching the stream. Forestry and agricultural practices that expose water to above-average amounts of sunlight raise the average temperature of the stream (**Figure 3**). This increased temperature can affect plants and animals that rely on the stream (**Figure 4**).



Figure 2. A well-managed perennial stream has streamside management zones that contain trees for shade and underbrush for sediment control.



Figure 3. A shaded stream where streamside management zones help keep average water.



Figure 4. This stream is clogged with sediment and logging debris because of poor streamside management. The amount of sunlight reaching this stream results in increased water temperature.



Figure 5. Perennial stream



Figure 6. Intermittent stream



Figure 7. Drain or ephemeral stream

Management

Using streamside management zones does not mean you cannot harvest any marketable timber along your streams. The stream type tells you the amount of timber harvesting best suited to these areas. Mississippi has two basic categories of streams: perennial and intermittent.

Perennial streams flow all or most of the year and support many organisms (**Figure 5**). NPS pollution is most damaging to this stream type.

Intermittent streams need less protection than perennial streams (**Figure 6**). Water flows only part of the year, so regulating temperature is not as critical.

Each type of stream has a unique set of management measures. Harvesting some or all of the timber within a streamside management zone is acceptable if you follow certain guidelines. These guidelines are in *Mississippi's Best Management Practices Handbook*, available from the Mississippi Forestry Commission.

Drains

Drains, also known as ephemeral streams, are areas that have water only after a storm, and they are not classified as streams (**Figure 7**). However, protection is still important. Forest management activities within drains are limited. The *Mississippi Best Management Practices Handbook* lists important restrictions that ensure storm flow doesn't contaminate streams.

Why Should You Worry?

Even though streamside management zones are not required by law, you do have to protect water quality. Federal and state laws have been enacted to protect this resource. The Clean Water Act is a federal law enforced by the Environmental Protection Agency. Mississippi enacted the Air and Water Pollution Control Law, which is monitored by the Department of Environmental Quality. Anyone polluting water may be fined up to \$25,000 per day and be required to pay for all cleanup. For harvesting operations in Mississippi, that responsibility falls to the timber owner.

Proper use of BMPs helps landowners, foresters, and loggers avoid breaking these laws. Working together can help define management objectives and reduce accidental violations of water-quality laws.

If you need assistance regarding water quality issues, please contact any of the following organizations:

Mississippi Department of Environmental Quality
(888) 786-0661
(601) 961-5171

Mississippi Forestry Commission
(601) 359-1386

Mississippi Forestry Association
(601) 354-4936



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