

Streamside Management Zones (SMZs)

Texas Forestry Best Management Practices (BMPs) are state-of-the-art, non-regulatory (voluntary) methods designed to prevent erosion and protect water quality during and after forest management activities. Perhaps the most effective and beneficial BMP is the Streamside Management Zone (SMZ). An SMZ is a forested buffer surrounding perennial and intermittent streams that is managed with specific attention given to protecting water quality.

The primary purpose of an SMZ is to maintain water quality. One way that SMZs protect water quality is by reducing the amount of sediment that enters streams as a result of forest management activities. SMZs achieve this function by maintaining the stability of the soil around waterways, slowing down overland flow from areas adjacent to the SMZ, minimizing soil disturbance around waterways, and by reducing rainfall impact by intercepting precipitation. Another function of SMZs is to provide shade for streams, preventing increases in water temperature. This is important because high water temperatures can result in reduced dissolved oxygen in the water, negatively impacting aquatic organisms. In addition to protecting waterways, SMZs benefit wildlife by providing habitat diversity, travel corridors, and food.

SMZ Recommendations and Guidelines

- SMZs should be at least 50 feet wide on each side and above the head of perennial and intermittent streams. Ephemeral streams may also need protection in some areas.
- Depending on site conditions such as soil type, topography, or stream use/function, SMZs may need to be widened.
- SMZs should be delineated on the ground. This may be accomplished by flagging or painting their boundary.
- Roads, skid trails, and fire lanes should be located outside of the SMZ if possible.
- Roads and skid trails that cross SMZs should cross streams at a right angle and be kept to a minimum. Drainage structures should be installed prior to entering the SMZ.
- Log landings should be located at least 50 feet from the edge of the SMZ.
- Disturbance within the SMZ should be kept to a minimum.
- Timber may be selectively harvested from within the SMZ. A minimum of 50 ft² of basal area per acre, evenly distributed should be retained in the SMZ. A general rule of thumb is leaving 50% of the original canopy cover.
- All debris such as tops or limbs in the stream channel as a result of logging should be removed immediately.
- Trees should not be felled across streams. If unavoidable, felled trees should be topped before removing.

For more information please visit <http://texasforestservicetamu.edu/water> or contact your local Texas Forest Service office.



SMZs reduce the amount of sediment that enters streams and provide shade, helping maintain cool water temperatures.



SMZs benefit wildlife by creating edge and biodiversity, as well as providing food, cover, travel corridors, and nesting sites.