

SPECIFICATIONS FOR STREAMSIDE MANAGEMENT ZONE (SMZ)

Definition

A *Streamside Management Zone* is a protected area of at least 50 feet in width along the sides of any blue line stream.

Purpose

The purpose of the SMZ is to provide a relatively undisturbed zone to trap, settle, and filter out suspended sediments before these particles reach the stream, as well as protect stream bank stability and water quality.

Conditions Where Practice Applies

This practice applies to all blue line streams throughout Maryland, as defined below. Additionally, the SCD or other appropriate approval agency may require the establishment of a SMZ for the protection of a watercourse not mapped as a blue line, if site conditions warrant.

Blue line streams typically include all perennial streams and intermittent streams. Perennial and intermittent streams are streams whose flow includes a permanent, seasonal, or temporary groundwater component (*i.e.* the base level of the stream is at or below the local water table). Such streams flow for days, weeks, or months after a rainfall, or flow year round. These streams are identified on United States Geological Survey 7.5 Minute Series (Topographic) maps as solid or dotted-dashed blue lines (*i.e.* blue line streams). Any erosion and sediment control plan for a site that includes a blue line stream must provide for a SMZ.

Ephemeral streams (those that only flow for a few days after a rainfall) are usually not mapped as blue line streams. Although these, as well as other Waters of the State, may not require the establishment of a SMZ, they must still be protected and must not receive sediment-laden runoff as the result of a forest harvest operation.

Ditches managed by a *Public Drainage Association* (PDA) maintain existing erosion and sediment controls, and therefore, a SMZ does not need to be established. However, all of the requirements for Standard Plan specifications apply.

Specifications

1. The minimum width of a SMZ is 50 feet. This applies when the adjacent land has no slope. The maximum width of a SMZ is 150 feet (on land with slopes over 50%). When sloped land is encountered, the SMZ width shall be established using the following formula:
$$50 \text{ feet} + (2 \text{ feet} \times \% \text{ slope})$$

2. No new roads are permitted in the SMZ except to access approved stream crossings. If the only activity in the SMZ is the installation of an approved waterway crossing and its approaches, a SMZ Plan is not required. Existing roads, if serviceable and not creating a pollution problem, may be utilized if identified on the SMZ Plan and approved by the SCD.
3. Skid trails are permitted within the SMZ as part of an approved SMZ Plan as described below. The use of any skid trail within the SMZ must be limited so as to minimize disturbance to the forest humus layer. Skid trails located within 50 feet of a body of water shall be single-pass trails. Repair of damage to the humus layer within the SMZ and stabilization of the SMZ following the harvest shall be in accordance with the requirements set by this Manual¹⁷.
4. Harvesting activity is permitted in the SMZ if authorized by an approved SMZ Plan that follows the listed criteria:
 - a. The SMZ Plan is prepared by a LPF.
 - b. A sketch showing the location of required erosion and sediment control measures is included.
 - c. Stream crossings are avoided where possible. All crossings shall be shown on the sketch and have an approved Waterway Construction Permit, if required.
 - d. The SMZ Plan must show any road leading to the SMZ and skid trails within the SMZ.
 - e. Damage to the humus layer must be minimized. *Damage* is defined as the impairment of the usefulness of the humus layer in controlling sediment-laden stormwater runoff caused by the harvest operations.
 - f. Damage to the humus layer must be repaired immediately and stabilized. *Repair* is defined as returning the humus layer to pre-harvest conditions.
 - g. Exposed soil within the SMZ, resulting from the harvest operation, will be stabilized with seed and mulch within three (3) days of the disturbance.
 - h. Fertilizer shall not be used within the SMZ.
 - i. Use of logging equipment will be limited, with the use of low ground pressure equipment encouraged.
 - j. SMZ Plans may provide for harvesting within 50 feet of a body of water. Felled timber shall be removed by cable, non-vehicular means, extended reach equipment, or by skidder using a single pass. The use of low ground pressure equipment is strongly encouraged.
 - k. The objective of the SMZ is to maintain an effective vegetated buffer. Therefore,

¹⁷ See Specifications for Revegetation of Disturbed Soils.

except in limited circumstances, the basal area must not be reduced below 60 square feet of evenly distributed trees which have 6 inches or greater *diameter breast height* (DBH). However, the SMZ may be clearcut if part of an approved *Forest Management Plan*. The clearcut must also be included on the SMZ Plan prepared by a LPF. When a clearcut is authorized, the SMZ Plan shall require additional erosion and sediment controls be implemented as close to the body of water as practical prior to the start of and maintained during the harvest. Controls may include:

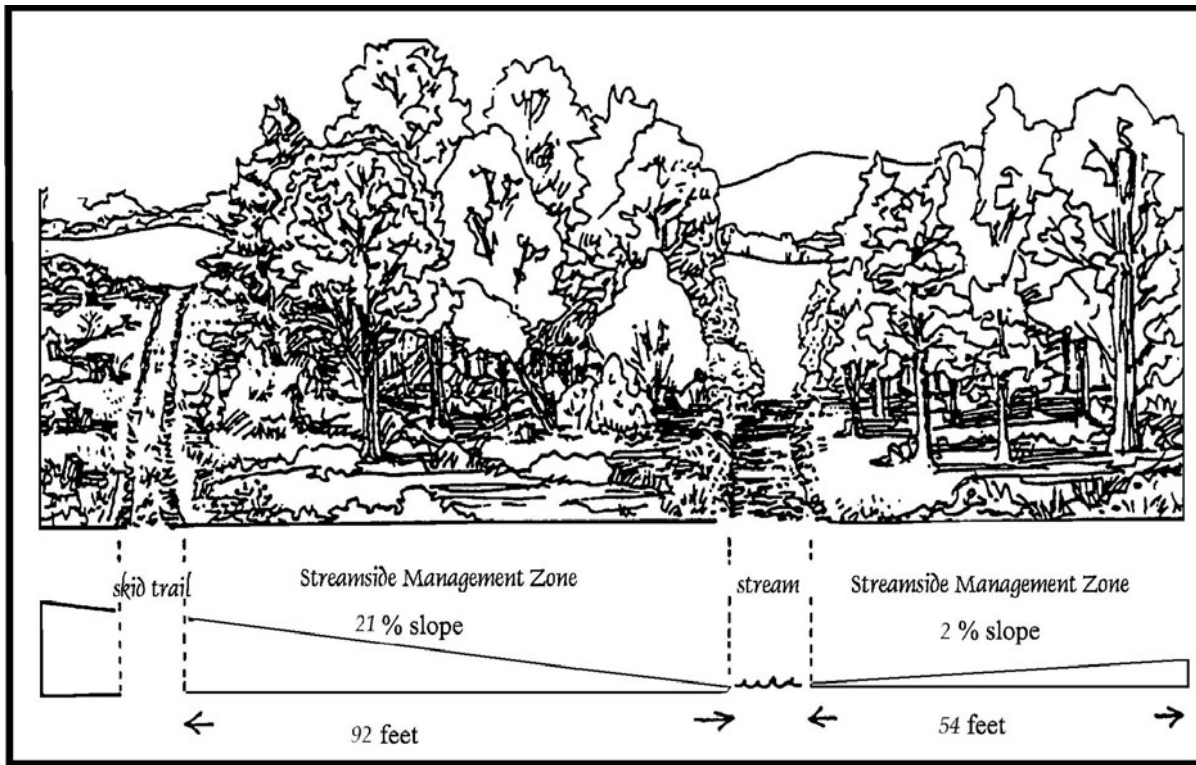
- i. Approved vegetated buffer of a specified width.
 - ii. Earth berm.
 - iii. Straw bale dike.
 - iv. Silt fence.
 - v. Other practices approved by the SCD.
 - l. All harvested tree limbs and tops must be removed from the stream to prevent stream blockage. Material originating outside of the SMZ shall not be deposited within the SMZ.
 - m. Individual trees to be cut in the SMZ must be marked at eye level and also near the base of the stump, so that the mark is visible after cutting. This requirement does not apply to approved clearcut operations or approved pine plantation thinning operations.
 - n. The method of harvest to ensure sufficient regeneration must be specified in the SMZ Plan.
 - o. Harvesting restrictions will be implemented during adverse weather conditions.
 - p. Trees must be felled away from the stream banks.
5. Sawmill sites and loading decks shall be located outside the SMZ.
 6. Energy dissipaters, such as riprap at cross-drain culvert outlets or discharge points, shall be installed where needed and shown on the SMZ Plan. Do not block water flow when using these structures.
 7. Additional BMPs for the interception and proper discharge of runoff waters from haul roads and skid trails leading to a SMZ may be required¹⁸.
 8. Stream crossings shall be constructed in accordance with the specifications provided later in this Manual¹⁹.
 9. All proposed activities within the SMZ shall not contaminate Waters of the State with sediment or any other pollutant (*e.g.*, equipment fluids).

¹⁸ See Specifications for Broad-Based Dip, Rolling Dip, Water Bars, and Cross-Road Drainage.

¹⁹ See Specifications for Temporary Access Waterway Crossings and Appendix G.

A sample SMZ Plan form is provided, immediately following the SMZ diagram in this specification. Other formats may be required by the SCD.

Diagram 2.0 – Streamside Management Zone



SMZ horizontal width is measured in linear feet from the edge of the pond, lake, or stream bank to the upper limit of the zone.

The SMZ widths shall be maintained during the entire harvest operation. They are determined by the following formula, established by forest researchers for effective SMZ widths:

$$50 \text{ feet} + (2 \text{ feet} \times \% \text{ slope}) = \text{SMZ width (To a maximum of 150 feet)}$$

Examples: (See diagram above)		
21% slope		2% slope
$50 \text{ ft.} + (2 \text{ ft.} \times 21\%) = 50 \text{ ft.} + 42 \text{ ft.} =$		$50 \text{ ft.} + (2 \text{ ft.} \times 2\%) = 50 \text{ ft.} + 4 \text{ ft.} =$
92 ft. SMZ		54 ft. SMZ

SMZ Plan Form

The form on the following page is an example of one acceptable type plan. Other types are permissible. Check with the SCD.

Diagram 3.0

STREAMSIDE MANAGEMENT ZONE (SMZ) PLAN

Landowner's Name: _____

Address: _____

Location: _____

(Attach a map indicating the location of streamside management zone, waterways, planned stream crossings, roads, main skid trails, and landings)

Area in streamside management zone (SMZ): _____ acres.

Width of SMZ (each side of stream): Range (min. – max. width) _____ feet;

Average Width: _____ feet.

Boundary of SMZ is marked with: _____ (color) _____ (paint or flagging).

Predominant tree species: _____

Current stocking density (basal area): Range (min. – max.): _____ sq. ft. / acre;

Average: _____ sq. ft./acre.

Average stocking to be retained: _____ sq. ft./acre. (Normally > 60 sq. ft. in trees > 6 in. DBH.)

Trees to be harvested are marked with: _____ color paint at eye level and on base.

Type of harvest within SMZ: _____

(Thinning, Selection, Shelterwood, Clearcut)

Regeneration will be from: _____

(Advanced reproduction, Seed, Sprouts, Planted seedlings, or N/A)

This SMZ Plan is used in conjunction with the Standard Erosion and Sediment Control Plan for this operation. All limitations for harvesting timber within a SMZ, as described in Specifications for Streamside Management Zone (SMZ), of the *2015 Maryland Erosion and Sediment Control Standards and Specifications for Forest Harvest Operations*, will be followed. Additional comments may be attached.

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Prepared by: _____

(MD Licensed Professional Forester) - Printed Name - Signature - Date

Agreed to by: _____

(Landowner) - Printed Name - Signature - Date

Approved by: _____

(Soil Conservation Dist.) - Printed Name - Signature - Date