

7. Firebreaks and appropriate water diversions installed parallel to roads, drains, and other firebreaks should be at least 10 feet away from the edge.
8. If roads, drains and/or other firebreaks are crossed or tied into, install appropriate water diversions about 10 feet from the intersection. Use low impact methods such as backblading, handlines, or water lines to tie into roads and drains whenever possible.

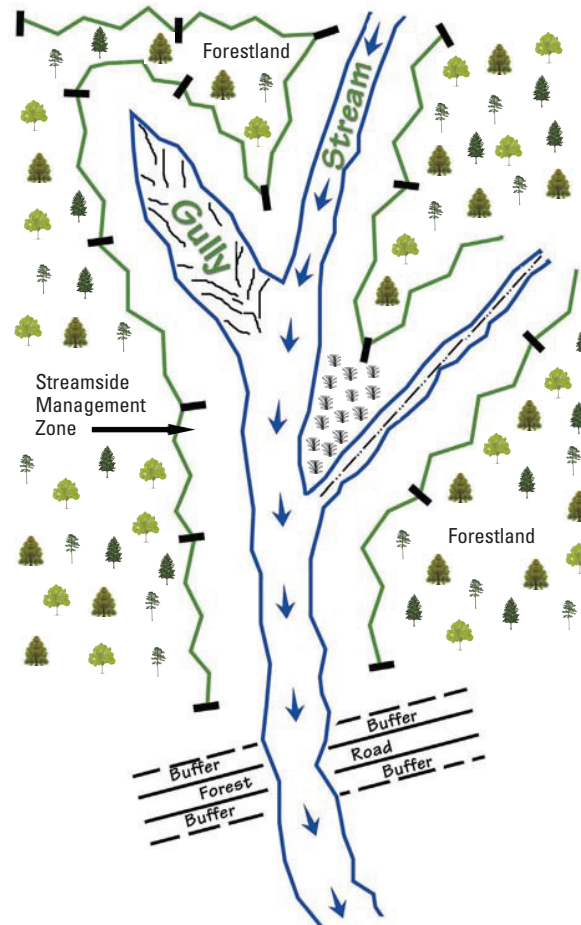


An appropriate water diversion moves water away from the main firebreak and into a stable vegetated area.

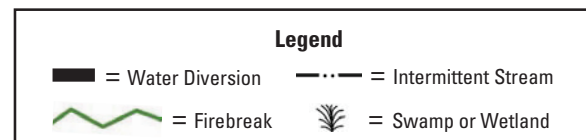
9. Treat active gullies the same as streams, using appropriate buffers and plowing practices.
10. Treat ponds the same as perennial streams, maintaining the same SMZ based on slope.

Best Management Practices take a small amount of extra time, but result in firebreaks that will serve you and the environment well.

Further information is presented in Georgia's Best Management Practices for Forestry manual. Visit the GFC website at <http://www.gatrees.org/resources/publications/BMPManualGA0609.pdf> or call your local GFC office.



Establishment of SMZs and water diversions are important for water quality when installing firebreaks near streams, gullies, wetlands, and roads. Water diversion placement and SMZ widths are determined by slope and stream type.



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WATER QUALITY PROGRAM



Firebreak Installation and Water Quality

General Procedures for Compliance with the Clean Water Act



The Georgia Forestry Commission is required to follow Best Management Practices (BMPs) when providing landowners with firebreak plowing services. **BMPs** are methods used to prevent or reduce soil erosion and water pollution as required by the federal Clean Water Act. Under the provisions of this Act, landowners can be subjected to fines of amounts up to \$50,000 per day for water quality violations that occur on their property.

General procedures for pre-suppression firebreaks:

1. Plan location of firebreaks.

Aerial photographs, soil maps and topographic maps combined with an on-site evaluation will help identify the streams, gullies and highly erodible sites on the property. Proper planning will ensure that firebreaks are effective and environmentally sound.



GFC Ranger and landowner plan firebreak location.

2. Use natural barriers such as roads and fields as firebreaks where possible.



A woods road serves as a natural firebreak.

3. Identify Streamside Management Zones (SMZs).

SMZs are designated areas adjacent to streams or other bodies of water that require special management to protect water quality. They are determined based on steepness of the slope and whether the stream flow is intermittent or perennial. SMZ width may range from 20-100 feet (see Chart 1). Wider SMZs may be required for protected water supply reservoirs.

- a. Exclude firebreaks and intensive fire from SMZs when possible.
- b. If firebreaks must be connected to a stream, construct them by using hand tools or by back-blading with a dozer in the SMZ.
- c. Install proper water diversions where firebreak crosses SMZ boundaries.

Slope Class	Minimum Width (ft) of SMZ on each side			
	Perennial (ft)	Intermittent (ft)	Perennial Trout Stream (ft)	Intermittent Trout Stream (ft)
Slight (<20%)	40	20	100	35
Moderate (21%-40%)	70	35	100	35
Steep (>40%)	100	50	100	50

Chart 1 - SMZ widths by slope class and stream type.

4. Install firebreaks on the contour rather than along property lines.

- 5. Firebreaks installed with a flat blade or disc-harrow are preferred. These breaks erode less than plowed breaks.
- 6. Install appropriate water diversions in firebreaks according to BMP recommendations (see Chart 2).

A water diversion moves water away from the main firebreak and into a stable area. It is usually constructed with an *angled* berm of varying height that is suitable to redirect water flow across the full width of the firebreak. This *angled* berm is connected to an angled opening or turnout that will allow water to drain away from the break into a stable, vegetated area.

Note: Drains = gullies/ephemerals/canals/ditches

Grade of Firebreak (percent)	Distance Between Water diversions (feet)
<2	At sensitive areas *
2	250
5	135
10	80
15	60
20	45
30	35
40**	30

Chart 2 - Spacing of water diversions.

*Sensitive areas = SMZ edge, drains, firebreak intersections, cover changes, roads.

**Use grades of 40% and steeper only for short stretches



Ranger back blades with dozer to minimize soil disturbance in an SMZ.