



FORESTRY

Leaflets

July 2012

WQ-2

Preventing and Controlling Runoff, Erosion & Sedimentation

Sediment is the most abundant pollution agent found in North Carolina's streams and lakes. Uncontrolled, accelerated erosion can result in fine soil particles being washed into our waterways. This process is called sedimentation. Taking care to prevent and control erosion and sedimentation is vital to insure forestry practices remain a preferred activity for protecting our watersheds and producing clean, abundant water.

Take action to control runoff and erosion: *Keep It In Place,... Slow It Down,... Spread It Out.*

Keep It In Place: Prevent accelerated erosion and runoff.

- Retain groundcover vegetation atop the soil surface. This can include grasses, other ground-covering vegetation and even layers of tree leaves or pine needles.
- Promptly re-establish a new layer of groundcover vegetation atop bare soil areas. Minimize the amount of time that soil is exposed bare.
- Limit the intensity and frequency of soil disturbance in areas nearby streams, lakes, wetlands, or ditches that outlet into a stream.

Slow It Down: Divide long continuous slopes into shorter sections ('break' the grade).

- By dividing a slope into shorter sections, you can better control the runoff by preventing the runoff from picking up too much speed and washing away large areas of soil.
- Install erosion control structures along roads, skid trails, firebreaks or other pathways that are situated along sloping lands.
- Examples of erosion control structures to control runoff and erosion (*some are illustrated on page 2*):
 - ▶ **Broad based dip:** An excavated dip with a shallow hump across a road or trail.
 - ▶ **Cross drain:** A culvert pipe installed diagonally underneath a road to transport runoff.
 - ▶ **Waterbar:** Similar to a speed-bump, situated diagonally across a road or trail.
 - ▶ **Turnout or Wing Ditch:** A shallow bladed or excavated pathway for runoff to travel.
 - ▶ **Road Surface Contouring:** Shaping the surface of a forest road in a way to control runoff.

Spread It Out: Spread out and capture runoff and sediment before it reaches the stream.

- Keep runoff from concentrating or funneling atop the soil surface. Fanning out the runoff will improve its ability to soak into the ground, instead of washing away the soil.
- Capture sediment before it reaches a stream, lake, ditch or wetland. Tools to accomplish this include:
 - ▶ **Sediment Pit or Silt Trap:** A hole excavated to catch runoff and sediment.
 - ▶ **Silt Fence:** Fabric fencing that can temporarily hold back sediment.
 - ▶ **Straw or Hay Bales:** Bales are set firmly upon the soil surface to catch sediment flow.

For More Information:

Detailed explanations of erosion control structures are provided in the *North Carolina Forestry Best Management Practices Manual to Protect Water Quality*. You can obtain a free copy of this manual from your local office of the N.C. Forest Service or from the Web site www.ncforestservice.gov

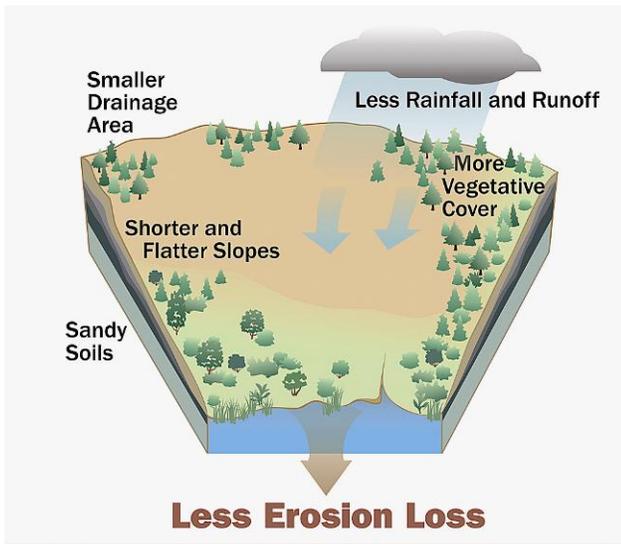


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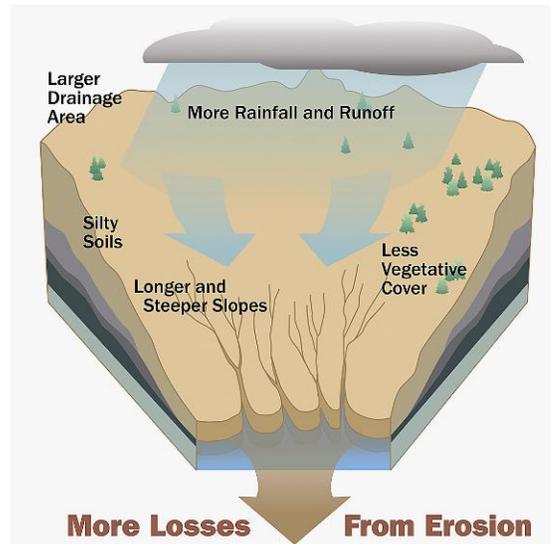
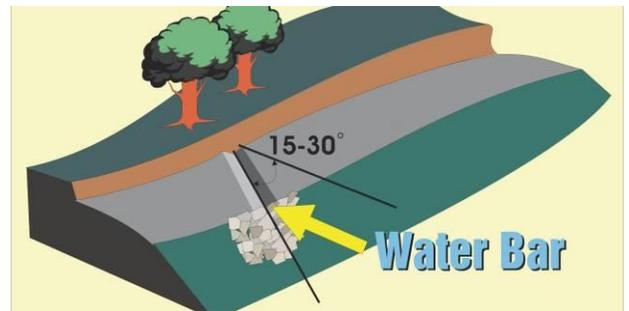
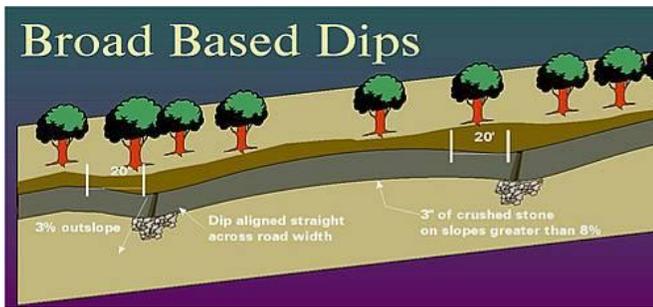


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Silt Fence

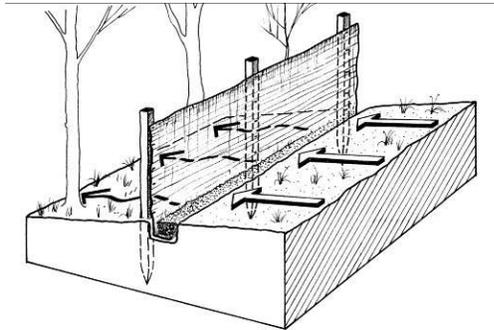


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Straw Bales

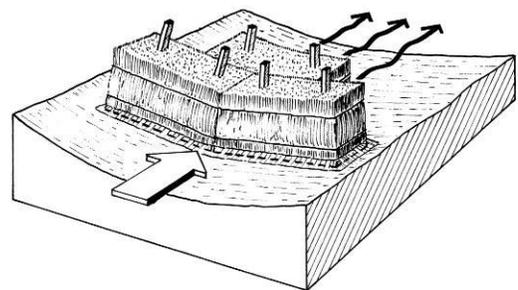


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Sediment Pit (Silt Trap)



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Turnout (Wing Ditch)



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