

EROSION

by Cherie Schadler

Water Erosion is the process of breaking rocks and soils down into smaller particles, and the washing them away by precipitation, usually rain. Wind, water and ice break down large boulders into smaller rocks. Those rocks split into smaller pieces of rock. The tiny pieces break down into sand. Soils are made up of decaying material from rocks, plants, and animals. When the soil is unprotected where trees and plants have been stripped away, the soil has nothing to hold it or bind it together. When a heavy rain beats down upon the soil, it may be washed away by the rain water into a stream, creek, or river, which will eventually carry it all the way out to a gulf or ocean.

It's hard to imagine that soil is the number one pollutant in the state of Mississippi, yet it is! Mississippi communities are steadily growing with many new construction projects taking place. When trees are cut down from a forested area, and soil is turned up and disturbed for new construction, it doesn't take much rain water to wash the soil into the waterways. If the soil is unprotected and Best Management Practices (BMPs) are not being practiced (practical solutions that help keep pollutants from entering streams, rivers, and other waterbodies), then the soil will move with the rain water.

Eroded soil in waterways disturbs the natural course of wildlife. **Turbid** or cloudy creeks prevent sunlight from penetrating the water. Aquatic vegetation consequently produces less **dissolved oxygen** in the water and **aquatic** life either suffocates or moves on. Clogged gills cause fish to gasp for breath. Eventually, the food supply will be reduced for fish and other wildlife such as turtles and ducks.

Clear cutting the land (cutting away all trees and brush) and ATV traffic are other ways soil is disturbed, making a creek turbid or cloudy. Construction sites often leave large amounts of bare soil to wash away or erode at the first rain storm. ATV traffic through the creeks disturbs fish beds and stirs up the **sediment** on the bottom of the creek. It can take several days for the sediment in a creek to settle back down to the bottom after a rainstorm or ATV disturbance.

Sometimes, the eroded soil moves from one place to another further downhill. The eroded area loses its **nutrient** rich top soil and lays several layers of top soil, clay, and sand over a different area of land possibly runoff wetland. This "silting in" process changes the natural characteristics of a landscape and can even end up redirecting the water in the watershed. Cypress trees and other **wetland species** of plants and trees lose their natural **habitat** and begin to die off.

Environmental stewardship means taking personal responsibility for our actions concerning our **natural resources**, including soil and water, because whatever happens upstream in the watershed affects the water quality for those who live downstream.