

The Farmer Cares for the Land

Identify the problem and the solution and the main cause and effect relationship in the information below.

Soil Erosion

Soil erosion is what happens when soil is washed or blown away. In most places, trees, grass and other plants hold soil in place. When that vegetation is removed, winds and rains can carry the soil away. Over the years, farmers have removed unwanted grass, weeds and other vegetation from soil before planting their crops. Cattle and other farm animals can also remove all the vegetation from an area if there are too many or if they are left in one place for too long. Once gone, soil is not likely to be replaced within our lifetime or within several generations.

On the Southern Plains, the soil is sandy; annual rainfall is low; there are large, open areas; and high winds are common. The first white settlers allowed their livestock to roam and graze the Plains until there was very little vegetation left to hold the soil in place. Early in the 20th century, farmers plowed up the natural grass cover on the Plains and planted **winter wheat**. Between 1934 and 1937, the area had even less rainfall than usual. With large areas of plowed land having no grass root system to anchor it, much of the soil blew away. The dust storms and sand storms buried roads and houses. Clouds of dust reached as far east as Washington, DC.

In the Ross Barnett Reservoir area, huge sections of land are being cleared for construction of new homes, schools, and businesses. Natural grass cover and all the native trees are being cleared to make room for buildings, road, and parking lots. This land has no root system to anchor it, so during heavy rain storms, the soil can wash away into the streams and the Reservoir. All this extra soil flows into the streams that lead to the Reservoir, causing the streams to fill up, or 'silt over', with extra dirt. If the streams are clogged with dirt, they cannot help rainwater flow to the Reservoir, and the areas around the stream start to flood.

In response to the disaster, the federal government created the Soil Erosion Service and the Civilian Conservation Corp to find ways to recover the land. Workers replanted grass, planted trees and showed farmers scientific agricultural methods to help them protect the soil.

One method was to put large numbers of animals out to graze on one piece of land for a short period of time and then move them to a new pasture. This allowed the animals to get the nutrition they needed while cutting down on overgrazing and erosion.

Another method was no-till farming. A farmer using this method planted crops directly in the plant stems, stalks and leaves from the last harvest. For this method to work, the farmer must use herbicide to kill unwanted grass and weeds. This method helps stop soil erosion, but some people worry that the herbicides used might pollute the underground water supply.

A method used in the Reservoir area to help protect the land is to require all builders to use sedimentation fences. Sedimentation fences allow water to flow through them but block the soil. This helps to stop erosion from the construction site and keeps the dirt from flowing into the streams and reservoir. Sedimentation fences can be made of a special fabric designed to capture silt, hay barrels, or a combination of both.

Problem	
Solution	
Cause	
Effect(s)	

These solutions create another problem. What is it? _____