

## How Erosion Hurts Water Quality

Soil erosion occurs when water and wind move soil from one place to another. Water and wind carry soil from the mountains around the lake into our creeks, rivers and streams, and into Lake Tahoe. During rainstorms, flowing water, called runoff, carries the soil to Lake Tahoe. Runoff also happens during snowmelt and the irrigation of plants or crops. The soil carried by water runoff is called sediment. It is important to remember that soil erosion is a natural process, and it can be good for the environment, after all erosion made the Grand Canyon. Sediment from natural erosion is sometimes good for the environment, but it has caused Lake Tahoe to become cloudy instead of blue.

Human beings in the Lake Tahoe area have sped up the process of soil erosion. Erosion must be slowed down so that no more harm is done to Lake Tahoe, and the plants and animals that live here. This article explains some ways that human beings have caused erosion, and it also explains how you can help control soil erosion.

Once the sediment, or eroded soil, is in a creek or river, it buries tiny water animals, suffocates fish eggs, clogs fish gills, and muddies clean waters. Sediment also carries fertilizers and pesticides used to irrigate lawns and gardens. These and other chemicals, make their way to streams and rivers, and pollute Lake Tahoe. Some of these chemicals causes algae to grow in the lake. Algae makes Lake Tahoe look green instead of blue. Also, dust and other small soil particles that are carried to the lake by runoff float on the surface of Lake Tahoe. Small particles floating in the lake make it look cloudy, instead of clear blue.

Humans speed up the process of soil erosion by digging up trees, plants and other vegetation to build things. Plants hold soil in place, so when builders dig plants up; the soil is more likely to be carried to the lake by runoff. Road construction has also caused soil erosion. Ground that is paved with asphalt does not allow water to run into the soil. Water runs over the asphalt, instead of running into the ground. As water runs over the asphalt, it picks up more sediment because it is moving quickly. Surfaces like asphalt are called impermeable surfaces. On the other hand, soil and gravel let the water run into the ground. Soil and gravel are called permeable surfaces. We want water runoff to run into the ground, instead of carrying sediment all the way to Lake Tahoe.

If we allow sediment, carrying fertilizers, small soil particles and other pollutants to run off our roadways and into the lake, we will watch it change from blue to green in our lifetime. To keep Lake Tahoe clear and blue, everyone must help. The best way to do this is to control soil erosion. United States laws, known as Best Management Practices (BMPs), will help our community control soil erosion.

The main goal of BMPs is to keep water that falls on your house or at your school, from running into Lake Tahoe. Best Management Practices control soil erosion by spreading mulch or gravel over exposed soil areas, building flower boxes or ditches to catch water, and planting vegetation.

The Lake Tahoe Report 002b [this article supports video segment 002 - Your Watershed]