

What do Watersheds Matter?

Our region is called the Lake Tahoe Basin because the water that fills our beautiful lake comes entirely from **precipitation** that falls within our watershed as rain or snow. The high peaks and ridgelines surrounding our communities form a huge bowl separating Tahoe's water from the water that flows to the Carson River, the American River, Steamboat Creek, and Martis Creek, near the town of Truckee.

Everyone lives in a **watershed**! In fact our entire continent is made up of watersheds, which often contain smaller subwatersheds. In nearly all watersheds that have not been disturbed, natural filtration processes tend to keep the water in streams, lakes and underground clean. Catastrophic floods occur much less frequently in undisturbed watersheds than in those with urban development and many roads.

Understanding the watershed concept is useful because the main way to stop the decline in Tahoe's water quality is to prevent pollution from many small soil disturbances. Since Lake Tahoe has no factories or wastewater treatment plants that discharge polluted water inside the watershed, most of the pollution entering the lake comes from many small, seemingly insignificant disturbances to the natural watershed. We call these small disturbances – a little **soil erosion** here, a little spilled fertilizer there – **nonpoint sources of pollution**.

Since the 63 Tahoe subwatersheds sometimes carry dirty water to the lake, all these small impacts add up to what we call the **cumulative** impacts to the lake. (It's kind of like the straw that broke the camel's back) These can be tracked over time, and the results can be displayed with graphs, such as the UC Davis Tahoe Research Group's Secchi Depth Chart. This chart tracks the average water clarity of Lake Tahoe – the distance you can see objects below the lake's surface. It shows that Lake Tahoe's clarity has decreased from 105 feet in 1968 to about 65 feet to 70 feet today.

The cloudiness in the lake's water is caused by a combination of small soil particles, and tiny single-cell algae plants that remain suspended in the water. They are too small to settle out, but numerous enough to block the light.

Best management practices (BMPs) are basically repairs that prevent **pollution** by restoring the property around our homes. We want rain and snowmelt to soak into the soil, not run off! Runoff collects and carries tiny soil particles and phosphorus, the most harmful of the nutrients that feed the single-cell algae plants in the lake. BMPs can prevent small amounts of pollution from leaving our properties throughout the watershed and entering the Lake. If enough people install BMPs the water quality at Tahoe will improve.

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Interviewees: John Cobourn (UNCE)