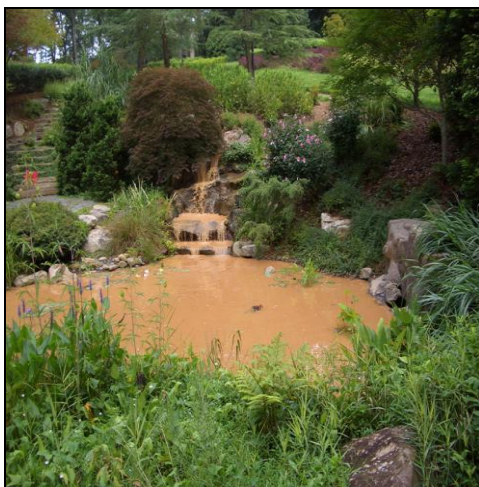


### Clarifying Turbid Water

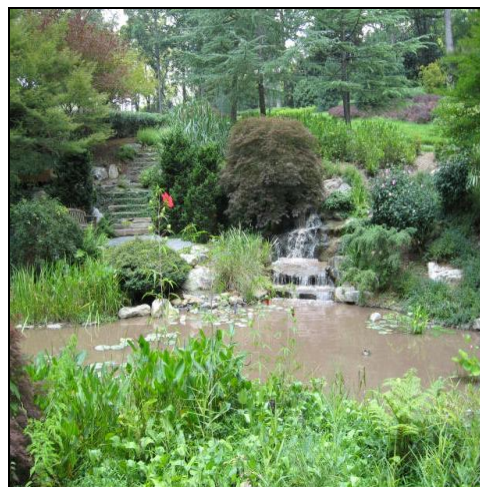
**The problem:** Long after sediment has been removed from a lake, fine-grained particles are still in suspension. Although gravity works well to cause larger particles to settle out, it has little influence on these fine-grain (colloidal) particles that give the lake a “dirty” appearance. Water bodies that have any circulation are even more difficult to accept, as the particles are constantly moving about, in every direction except downward. And even if they did settle down, the next inflow would disturb them enough to re-suspend them again and again and again. Once settled, you want the particles to stay on the bottom.

**The solution:** Water treatment operators have known for years that mechanical filtration is not effective in clarifying turbid water. Instead, operators use a chemical approach to cause the particles to “glue together” which form larger aggregates that will settle under the influence of gravity. One of the most effective classes of chemicals is the organic polymer group. Turbid lake water is usually pumped over the semi-hydrated gel blocks of polymers or powders and then through a series of baffles that cause mixing to occur. Thereafter the water can be directed into a depression, where the particles quickly settle to the bottom; and the clear water can be discharged from the top. Other sites permit the polymer-treated water to return to the original source.

Several vendors sell polymers for water clarification. Matching polymers to soil and water characteristics is helpful. Each site must be fully evaluated before a plan can be developed and implemented.



Before Treatment



Two Days After Treatment