

When it rains it pours: Stormwater contains

Most of the pollution that enters Grand Traverse Bay comes from countless small sources throughout the watershed.

When it rains, stormwater picks up a variety of pollutants along the way and transports them to the nearest stream, river or lake.

According to the USEPA, this non-point pollution accounts for 70-80 percent of water pollution problems in the United States.

Excess sediment and nutrients have been identified as two of the biggest threats to the health of our watershed. Stormwater is the primary, although not the only, source of these pollutants.

Non-point pollution sources include:

- Stormwater runoff which carries sediment, motor oil, road salt, antifreeze, gasoline and other toxic chemicals, animal wastes, fertilizers, pesticides, and other substances from our streets, driveways, parking lots and lawns into our lakes and streams every day.

- The wind carries acids, mercury and other pollutants from incinerators, power generating plants, and industries hundreds of miles away which are then deposited when it rains, sleet, hails or snows.

- Household cleaning products, solvents, etc. either go down the drain, or end up in a landfill and can contaminate our water.

- Poorly maintained septic systems can be a hidden source of excess nutrients along with pathogens and improperly disposed toxic substances.

Why is sediment considered a pollutant?

A product of erosion, sediments are water-borne particles of sand, clay, plant and animal debris.

When sediments enter a creek through streambank erosion or stormwater runoff, the sand and clay particles settle to the bottom. Over time, they can accumulate as thick layers. The sand and clay seals off the natural gravel stream bed, which is critical habitat for fish, aquatic plants, insects and other creatures in the watershed's food web.

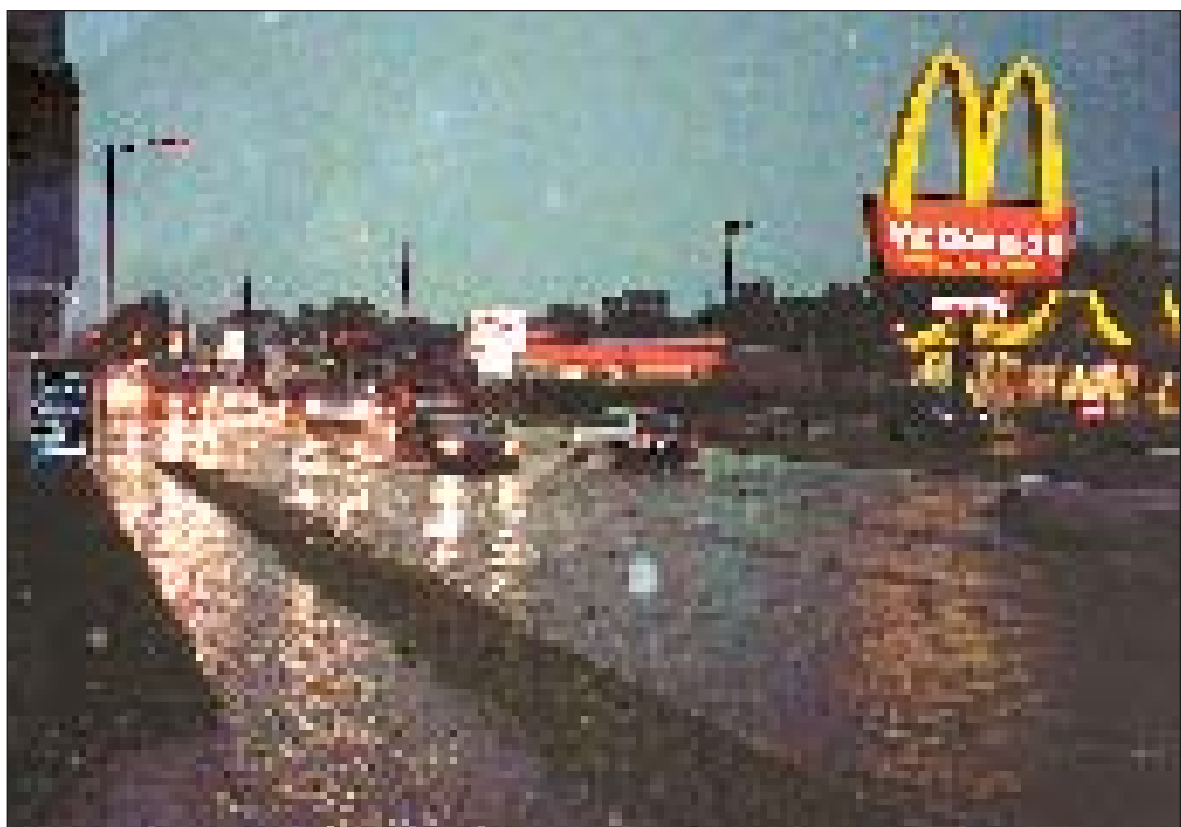
Heavy concentrations of sediments can block critical sunlight for aquatic plants, ruin fish spawning areas, clog fish gills, increase water temperatures, and decrease the amount of oxygen in the water.

Too much of a good thing

Phosphorous and nitrogen are naturally occurring elements that act as essential chemical building blocks for living organisms. They are found in everything from food and household products to fertilizer.

Elevated quantities of either of these nutrients can upset the balance in an aquatic ecosystem and lead to excess weed and algae growth which ultimately lowers dissolved oxygen levels and chokes out aquatic life.

Nutrient pollution results from a variety of human activities including improper fertilizer application, faulty septic systems and stormwater runoff.



Above: A \$199,000 restoration project will return this damaged streambank on Kid's Creek back to its natural contours, enhancing trout habitat and reducing erosion. Top of page: Strong thunderstorms can dump huge amounts of rain on Traverse City in a short period of time, flooding streets and overflowing stormwater lines.