

Ripple Effect #10

What are Nutrients in Waterways? Why do They Turn into Pollutants?

Fertilizers are often applied to lawns, gardens, and crops to enhance plant growth. Fertilizers act as nutrients to plants, just as vitamins act as supplemental nutrients to people and animals. Without today's fertilizer products, the Red River Basin's agricultural industry would not be nearly as successful as it has become. But, when fertilizers are applied irresponsibly or at levels that go beyond what plants actually need, they may be washed off the soil and eventually find their way into our waterways.

The two main fertilizers that are applied to crops, lawns, and gardens are Phosphorus and Nitrogen. In the Red River Valley, these two nutrients are also found as natural sources in the soil and air. As the Red River and its tributaries carry these nutrients from natural and un-natural sources, their concentrations begin to increase as the river winds its way north to Lake Winnipeg in Canada. As the concentration of these nutrients rises, and when they reach concentration levels that begin to cause more harm than good, they are then viewed as pollutants.

What harm might come from undesirably high nutrient levels in our lakes and streams? The high concentration of Phosphorus encourages the growth of aquatic plant life, especially algae. As algae accumulates and dies, the amount of oxygen declines in the water and other aquatic organisms, such as fish, can become greatly stressed or even die. There are other algae that occur in Lake Winnipeg that become toxic to both humans and aquatic life. This type of algae, called blue-green algae, can acquire nitrogen from the air, and when provided with high concentrations of Phosphorus that is available in the water, the algae growth explodes and creates unhealthy and aesthetically unpleasing conditions. Though Lake Winnipeg has been highly publicized for its algae blooms, there are many other water bodies throughout the Red River Basin that frequently experience this problem.

For more information on how you can help the nutrient loading problem, check out the tips on the Environment Canada website http://www.ec.gc.ca/water/en/manage/qual/e_can_i.htm and the **Water Quality in the Red River Basin** publication posted at www.redriverbasincommission.org.

Until the next Ripple Effect,

The Red River Basin Commission (RRBC)

The RRBC is a grassroots organization that is a chartered not-for-profit corporation under the provisions of Manitoba, North Dakota, Minnesota, and South Dakota law. Our offices in Moorhead, MN and Winnipeg, MB can be reached at 218-291-0422 and 204-982-7254, or you can check out our website at www.redriverbasincommission.org.