

River Life in the Winter

Temperatures are frigid and snow is flying-winter is here in full force! You may wonder where river critters, from flies to fish, go when ice begins to form along the banks of a river. Just as we have ways of adapting to cold weather, such as putting on boots and down jackets, animals have strategies for surviving the cold and ice.

The key to winter survival for most aquatic insects and animals is to lower their activity levels to a point where their needs for food and oxygen are greatly reduced and to find a location where they will not freeze. Most inhabitants of the river are cold-blooded; when the water temperature drops, so do their body temperatures. They can live in the coldest water, as long as it doesn't freeze solid. Stream flow at this time of year is at a seasonal low. Parts of the stream will freeze, along the edges and in shallow stretches. So, most aquatic animals move to deeper pools in the river where ice hasn't formed.

Photosynthesis continues to occur in a river during the winter. Although some aquatic plants cease to grow during

the cold months, many plant species, such as blue-green algae, are still active and continue to provide a source of oxygen for fish and insects in wintry waters. Most aquatic insects are still in the river, but much less active. Some types of insects spend the winter in the river as nymphs or in a larval case to emerge in the spring as adult flies.



Northern pike and other game fish seek deep holes in the winter.

Fish overwinter in deep holes in the river to avoid being frozen in ice. Their food sources, the insects, are still present. In some rivers along Lake Michigan, steelhead trout come up the river in the late fall and stay in holes during the winter. They spawn January to March and then the adults head

back out to Lake Michigan. Salmon come up rivers in autumn to spawn; then die. Native fish, such as bass and northerns, drop back downstream looking for deep holes in which to overwinter. In spring, they migrate back upstream to spawn.

So, in spite of its icy appearance, rivers continue to support life during this coldest part of the year.

Algae Blooms:



Turning the Tides from Green back to Blue

Algae blooms are common in the hotter days of August, after lakes are fed a steady diet of nutrients and sunlight all summer long. After all, algae are plants, too, and respond by growing when given food and light.

The most common algae is the blue-green variety we often see turning the lake a dark green. Algae cannot be harvested like other aquatic plants, so attacking the source of the problem works best. Excessive nutrients are the primary cause of algae.

Odds are great that the primary nutrient feeding your lake is phosphorus, which stimulates many kinds of algae and weeds to grow. Is there anything you can do as a lake-user or lakeside property owner? Actually, there are a number of things you can do.

First, look around to see if there are any gross or obvious sources of phosphorus coming off your property. Here is a list of the most common sources of phosphorus to check out first:

- Is your septic tank system maintained properly?
- Are you fertilizing too close to the lake?
- Have you tested your soil lately for phosphorus levels? Maybe you don't need to add any this year.
- Are you piling leaves near water?

Other actions homeowners can take

include planting a buffer strip of tall grass or other plants between a fertilized yard and the lake. The vegetated buffer strip acts as a filter to trap nutrients and other pollutants before they reach the lake. It can also add to the landscape's scenic beauty. During winter months, leave natural ice ridges in place to act as barriers when spring thaw increases runoff flow to the lakes.

When doing lawn work, make sure leaves, grass or fertilizers don't end up in the gutters or ditched areas. Many times storm sewers carry pollutants directly to the lake. And finally, check your paved areas to make sure fertilizers are swept off to the grass.

Remember, the best way to treat an algae problem is to attack the source, which is probably excessive nutrients running off the land into the lake.