

What to do about Weed Growth in Jack's Lake?

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Jack's Lake Association

As in many lakes in Canada, an invasive species called Milfoil (see photo) is now outcompeting our 20 or so native species making our swimming and boating more difficult. The good news is that with a few small measures, we can control the weeds. Science tells us that eventually the weeds will go away, nature will eventually win but it will take a few years.

What can you do to minimize weed growth?

1. Do not use fertilizers on your lawn as phosphorus which is in the fertilizer will wash into the lake stimulating weed growth.
2. Use a regular garden rake and spend 20 minutes or so every week and remove the weeds near your dock. Take them inland to an area about 30 m from the shore where they become compost. A dethatching rake works even better and gets the roots but keeps the weeds from breaking up in pieces for easy removal.
3. Weeds provide important benefits to the lake. They oxygenate the water, provide clarity by impeding wave and wind that stir up sediment and are home for fish and other species. For these reasons, complete elimination is not desirable.

What is the Impact of Using Herbicides to kill weeds?

The Federation of Ontario Cottage Association's publication entitled "Healthy Waterfronts" has this to say about weed control. **"Toxic Herbicides Should be Avoided!"** "They may, or may not, control aquatic plants quickly in the short-term, can be expensive, may have to be used often to be effective, and can have negative side effects. Herbicides are especially discouraged within a wide area where anyone will be swimming, or where water intakes are nearby. Using these chemicals has health and environmental risks, and always requires a Ministry of the Environment, Conservation and Parks and/or Parks Canada permit."

The herbicide "Reward," is approved by Health Canada through their Pesticide Management and Review Agency (PMRA) for boating channels where weeds might impede navigation but was not approved for cosmetic purposes such as when you don't like weeds at your dock. It should not be used where we swim and where we draw our drinking water. Many of us still drink lake water but typical treatment methods do not remove dissolved chemicals.

Key Points

1. All known treatment methods makes the weeds more persistent and problematic. The herbicide Reward does not kill the roots of the weeds so it may require additional treatment in future years. It also kills both invasive and native aquatic plant species. Native plants are important for the health of the lake ecosystem and are home to fish and other species. Removing them makes a home for even more troublesome weeds in the future.
2. The active ingredient, *Diquat dibromide* is toxic to fish and the food organisms on which fish survive. It is also moderately toxic to mammals, birds, and even humans. In human *Diquat* poisoning cases, clinical signs of neurologic toxicity tend to be the most significant. They include nervousness, irritability, restlessness, diminished reflexes, disorientation and inability to recognize friends or family members.

3. The half-life (time for half to disappear but half still remains) of Reward is 2-10 days and permits state not to drink the water for 5 days.
4. When a large biomass of weeds are killed, nutrients are released and blooms of toxic blue green algae can result resulting in another reason that drinking lake water may not be safe to drink for weeks. One species of blue green algae requires bromide to grow and it is present in Reward. The toxin produced results in a brain disease found in eagles, amphibians, reptiles and fish (see Eagle Killer in our web site below).
5. This nutrient release can cause other problems. Even if the resulting algal biomass (green scum) is made up of less harmful algae the biomass will be substantial. When algae sink, two things can happen: 1) If the lake bottom becomes sufficiently low in oxygen (reducing conditions), phosphorus that has been stored in sediments for many years will rapidly move into the water promoting the growth of more algae; and 2) algae will sink to the deep water using up oxygen and suffocating the cold water fish like lake trout. Sharpe's Bay has special status as it is one of the few lake trout lakes. It is considered to be "at capacity" and no further development should take place. The sudden influx of phosphorus from such extensive weed kill will far exceed development that is protected by "at capacity status" and put the lake trout population at risk.
6. Along with the *Diquat*, a non-ionic detergent is used that is not regulated (tested for toxicity) by PMRA. Still there is considerable research on these compounds showing that some are even more toxic than the *Diquat dibromide* itself.

Please visit our Jack's Lake Website for tips on removing aquatic weeds and more details on toxicity of herbicides.

www.jackslakeassociation.ca/herbicides-to-control-water-plants

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