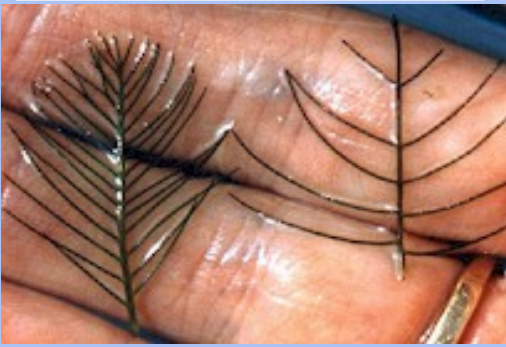
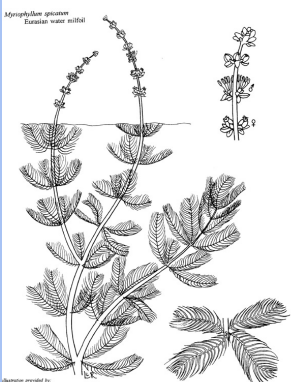





Major Aquatic Problems in Michigan Lakes

Exotic Plants

Exotic plant species cause many of the most serious weed problems in lakes and ponds. Exotic plants are plants that are not native to this area, which have been brought to the area inadvertently. Because they often have few natural enemies (their pests, pathogens, etc. may not have come over with them) therefore, they grow out of control. When exotic aquatic plants such as Eurasian watermilfoil and curlyleaf pondweed invade a lake, they often form extensive dense populations, crowd out native species and reduce the quality of habitat for other organisms.

Exotic	Native	
		

Eurasian Watermilfoil is an exotic weed in Michigan, meaning it is not a native species. Its origin has been traced to the Hudson Bay area during the late 1940's. Because it's not a native species, milfoil has few natural controls. By midsummer it can form mats so dense it restricts swimming, boating and fishing. Milfoil can reproduce by seed and fragmentation. A small piece or fragment of the plant can form roots and develop into a new plant. A single whisp can multiply into 250 million new plants in one year!!! Boaters can help prevent the spread of milfoil and other aquatic weed species by removing all aquatic weeds from the trailer, boat, motor/propeller and anchors before leaving an infested lake. Studies have shown that dried milfoil, after being out of the water for a week, can survive if re-submersed in water. Therefore, the weekend boater can unintentionally infect lakes with these aquatic weeds if they are not removed from the trailer and boat.

Algae are basically divided into planktonic, filamentous, and macroalgae forms. Planktonic algae are microscopic, free floating plants, often referred to as "water bloom". In large number, the algae can cause water to appear green, brown, yellow, or even red. Filamentous algae, commonly called "pond scum" can form raft-like masses over the water surface. Since they are vulnerable to winds and currents, they are generally restricted to bays, bayous, and sheltered shorelines. Filamentous algae can grow attached to the lake bottom, weeds, piers, and docks. The filamentous algae will frequently detach from the lake bottom and form floating mats. The macroalgae includes two types, chara and nitella. Chara grows like a carpet on the bottom of the lake. It is nature's water filter and is excellent for fish bedding. Chara grows approximately one inch a week during the summer months.



Curly Leaf Pondweed was brought to North America sometime between the middle of the 19th century and 1900 and has now spread throughout many parts of the continental U.S. and Canada. This species usually emerges early each spring, flowers and sets seed in the late spring and early summer, and then collapses by the first week in July. There are, however, exceptions to this pattern regarding juvenile plants, part of this re-growth community can occasionally be found in the late summer or early autumn. These small plants are capable of over-wintering below ice cover. Curly Leaf can be a severe nuisance during the early part of the peak recreational use season. Early control of this species is recommended so that the plant is not allowed to produce large quantities of biomass that die naturally and decompose in early July when water temperatures and the potential for oxygen stress are high. Early treatment/management is also encouraged to take place prior to seed production. Therefore, reducing the next generation of early pondweed growth.

1 Midwest Aquatic Plant Management Society Leaders Manual

Helpful Tools for Proper “Watershed Management”

Fertilizing lakeshore lawns and gardens

It is a common practice to add fertilizer to our lawns and gardens during the growing season to enhance their growth. However, the key to the survival of your lake is reducing the input of nutrients. One of the major sources of nutrients in lakes is lawn and garden fertilizer run-off. The middle number of your lawn fertilizer (10-10-10) is phosphorus. One pound of phosphorus could result in over 10,000 pounds of wet algae. If you are going to fertilize, one must use a non-phosphorus fertilizer and a slow release nitrogen source. The slow release nitrogen will allow less of an impact on the lake since only two applications, Spring and Fall, are required.

Reducing nutrients entering the water from your property

- The use of greenbelt of natural vegetation between your lawn or septic system and the lake to filter runoff. The greenbelt should consist of plant varieties of shrubs, flowers or trees that do not shed their foliage into the water.
- A lawn fertilization program that uses no phosphates and a slow release nitrogen.
- Apply fertilizer when the grass is actively growing. Begin fertilizing in the Spring when temperatures are warm and discontinue before the grass ceases to grow in the Fall.
- Perforate lawn periodically and seed and mulch exposed soil (to prevent erosion.)
- Remove dog droppings from lawn and deposit in trash containers. The also pertains to geese and duck droppings.
- Do not pour oil or other material down storm sewers. Do not hook-up washing machines to storm sewers.
- Check on all activities occurring around the lake that are either causing erosion to the lake or are filling into the lake below the high watermark.
- Do not feed ducks or geese.