



GREEN TIPS

Department of Horticulture - Michigan State University

AQUATIC PLANTS

Our objective is to help owners of existing ponds to achieve the benefits they wish to obtain from their pond as well as to aid aspiring owners in foreseeing a pond's potentials and problems before building or buying. How a pond is situated and constructed strongly affects the success of the management.

Aquatic plants play essential roles in the recreational fish pond. The healthy pond will have moderate amounts of a variety of plants. Plants become overabundant and interfere with pond use when - and only when - nutrients are too abundant. We then view the plants as weeds to be controlled.

Control of the overenrichment-overvegetation problem is one of the most common pond management needs. The way to prevent a pond from becoming algae-ridden or weed-choked is to keep excessive amounts of nutrients from getting into the water. The only permanent way to restore a pond from plant overabundance is to halt the oversupply of nutrients. Trying to control plants by cutting or with chemicals is only temporary. Overzealous use of chemicals (herbicides and algicides) to poison plants may damage the health of the pond community and should be avoided.

Plants not only release oxygen and serve as the producer base of the pond's food web, they also furnish cover in which fish like to rest, and they support organisms that fish eat. Having a few well-spaced plant beds can provide prime fishing spots. Certain vegetation also attracts waterfowl and other enjoyable wildlife.

Source: Oakland County Extension Bulletin

The disadvantages of too many pond plants can include:

- Unfavorable build-up of organic matter on the bed.
- Daytime overproduction of oxygen to an extent toxic for fish.
- Nighttime overconsumption of oxygen to a point where fish do not get enough.
- Daily changes in acidity/alkalinity balance of the water which are unfavorable to fish and other organisms.
- Too much cover for small fish to hide from predator fish, resulting in overpopulation of the pond with small fish.
- Interference with fishing, boating and other activities - including seining to control fish populations.

If less than a fourth of the pond surface is covered by plants, there is probably no problem unless this interferes seriously with use of the pond. Even much more vegetation than that may pose no threat to the welfare of pond fish.

Kinds of Plants

The many kinds of pond plants are in two general groups: algae and rooted leafy plants. The latter have flowers.

Algae (the plural of alga) are single-cell plants or colonies of cells lacking true roots, leaves or flowers. There are three types of algae.

-- Planktonic algae drift free in the water, are usually microscopic in size, and, when abundant, make the water look murky. Algal murk may range in color from green to yellow and brown or even gray.

-- Filamentous algae are threadlike or netlike. They may be small and free-drifting but often occur as "mossy" growth on rocks, plants and other firm objects. Some kinds form a water surface scum or a slimy, felt-like mat on the pond bed. Most scums and mats are actually communities containing many bacteria and fungi, as well as algae.

-- Chara algae, also called muskgrass or stonewort, grow attached to the pond bed without true roots, have clustered needle-like projections, and are often mistaken for leafy plants. The two common kinds are chara and nitella. When mashed between the fingers, they both feel gritty and give off a musk-like odor. There is often a white or brownish crust of lime or "scale" on the plants. Chara occurs under natural conditions as small clumps about 6 to 8 inches high. When overfertilized, it forms continuous stands several feet high. Overabundance of chara is a common pond problem.

Source: **Oakland County Extension Bulletin**

Footed, leafy plants also occur in three general forms:

-- Submergent plants (or submersed plants) grow rooted to the bottom with most parts beneath water. Some have a few leaves floating at the surface. Many thrust blossoms above the water. Common submergents are pondweed (Potamogeton in many varieties), coontail, milfoil, waterweed (Elodea), water buttercup and bladderwort.

-- Emergent plants (or emersed plants) have stems and leaves thrust above the water. These grow at pond margins and many extend into water several feet deep.

Aquatic Plant Management

Additional aquatic plant photos, sources of nutrients impacting the pond, temporary methods for vegetation control, are available in "Managing Michigan Ponds for Sport Fishing," 2nd edition, M.S.U. Cooperative Extension Service bulletin #E-1554, which can be obtained from any County Cooperative Extension Service office.

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Issued in furtherance of Cooperative Extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Arlen Leholm, Director, Michigan State University Extension, E. Lansing, MI 48824

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GT1000 - March, 1998

Source: **Oakland County Extension Bulletin**