

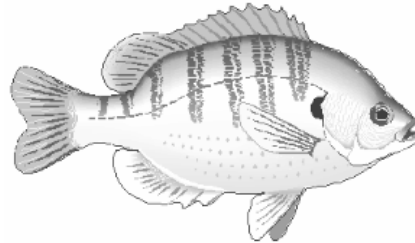
Ohio Pond News



The Ohio State University

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Leafy and Small Pondweeds

Submerged plants can provide fish and wildlife benefits, but often reach nuisance levels in many ponds. Pond owners using their ponds for swimming, irrigation, and/or fire prevention prefer to have no submerged plants. Although up to 20+ submerged plant species can be found in Ohio, two species cause many of the submerged plant problems in Ohio ponds. They are leafy pondweed (*Potamogeton foliosus*) and small pondweed (*Potamogeton pusillus*). These two species thrive in warm, shallow ponds throughout the state.



Leafy pondweed

Leafy pondweed is best described as having short, grass-like leaves with clumps of 4-8 fruiting bodies attached to the center stem by a short stalk. Small pondweed is very similar with grass-like leaves but the leaves tend to be longer. The nutlets are not nearly as compact, but arranged more loosely on the stalk. Identification is made more complex in that both leafy and small pondweed have many highly variable growth forms depending on growing condition and other factors. Both species tend not to form dense beds but rather form loose clumps of stringy sub-



Small pondweed

merged plants. These “strings” can get quite long and often are longer than the depth of water they are growing in. This causes large floating mats of these two species. When this occurs, many of the seed heads actually stick out of the water a centimeter or so. It is very common in Ohio ponds to see both species growing together. I’ve often wondered about hybridization of these two species.

Both species begin growing vigorously in early May and by mid-June, clumps are very apparent throughout the shallow areas of the pond. They persist all summer, but tend to start dying back in August. In my ponds, they are largely gone by late September. They are preferred food items for a variety of waterfowl, including blue-winged teal, american widgeon, and pied-billed grebe. I often see these beautiful waterfowl species on my ponds in May and September eating small and leafy pondweeds.

Occasionally, these two species attain biomasses deemed unacceptable by some pond owners. So what are the control options? White amur (grass carp) prefer *Potamogeton* pondweeds including leafy and small pondweed. Another strategy is to use pond dyes to darken the water and reduce sunlight penetration. This limits how deep these two pondweed species can grow, generally limiting germination and growth to about 3 feet of water and less. Keep in mind, pond dyes need to be applied in March and may need supplemental additions as the year progresses.

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Did You Know?

- There are two kinds of cattails in Ohio, narrowleaf cattail and broadleaf cattail. Broadleaf cattails are native, while narrowleaf cattails are an invasive from Europe. Unfortunately, these two species easily hybridize and some stands of cattails can be mostly hybrids.

Worm-like Creatures in Ponds

A number of pond owners have expressed concerns over the appearance of aquatic worm-like creatures in their ponds. Calls range from the creatures are attaching themselves to swimmers to the shallow areas are teeming with worms in the bottom sediments. A number of pond creatures resemble worms, some more so than others.

The calls concerning attachment to swimmers involve leeches, a group of species that thrives in old ponds with lots of vegetation. Fortunately, Ohio ponds do not have blood-sucking leeches but have leeches that feed on decaying materials. Leeches thrive in vegetated areas over soft, organic bottoms.



Aquatic worms are another creature that can, under certain conditions, build-up large populations, causing the pond owner some concern. For all practical purposes, these worms closely resemble earthworms in gardens. They also prefer soft-bottom areas in shallow water.



Aquatic nematodes can become quite numerous in shallow water, and seem to have a preference for sandy areas of beaches. This causes the pond owner considerable anguish as family members complain that the sand is alive, as these nematodes go about their biological business.



Last but not least, there is a group of worm-like creatures known as chironomids that inhabit bottom areas throughout the pond, including deep water. The adults of these species resemble mosquitoes but cannot bite. They are known as midges. The larvae live in the pond's bottom until they are ready to pupate, at which time the adult emerges and leaves the water.



There is no legal pesticide to control any of these bottom-dwelling creatures. However, not all is lost, because several fish species eagerly prey on these creatures, keeping their populations in check and hopefully at a level pond owners can tolerate. The first species is the bluegill sunfish whose primary diet, as juveniles and adults, are the nymphs and larvae of aquatic insects and other worm-like creatures. For worm-like creatures, wiggling around in front of a bluegill is a death sentence. Ponds with good bluegill populations typically have low abundances of the creatures described herein. Some pond owners do not wish to have bluegill because they have a tendency to nip swimmers. For those ponds, redear sunfish are an option as they also consume worm-like creatures. Bluegills typically do a better job, but redear sunfish are a viable option. Another advantage of redear sunfish is that they also eat snails, bluegills do not. Whatever species is chosen, sunfish are an ally in reducing these bothersome creatures.

Bill Lynch, Program Specialist, OSUE Natural Resources

Ponds and Drought: Possible Problems

Many areas of Ohio have experienced little rainfall this spring and summer, and as a consequence pond water levels are low and getting lower. Does low water pose a management concern for the pond owner? The answer is yes and the potential problems are quite varied.

First and foremost is safety. As water levels drop and water becomes shallower, diving risks to swimmers can increase. While a person should never dive into a pond unless they know there are no underwater hazards, diving should never be attempted in a pond with a low water level. Diving into the bottom can cause life-altering injuries and death in some instances.

Explosive plant and algae growth is a common outcome as water depth decreases for two reasons. One, nutrients are being concentrated in a smaller volume of water, and this enhances plant growth, particularly filamentous algae. Two, decreased water levels often allows sufficient sunlight penetra-

tion in deeper areas to trigger plant growth in areas where aquatic plants have not grown before.

Risk of fish kills is higher in ponds with lowered water levels. The explosive plant growth described previously can cause low sunrise oxygen levels due to plant respiration during the night. Also, treating plants with herbicides during low water periods can cause fish kills as dying plants quickly use up oxygen and the reduced water volume provides less oxygen with which to decompose dying materials. During a drought, treating aquatic plants with algacides and herbicides is very risky for fish. Be careful. Surface aeration would be wise.

Lastly, exposed mudflats allow waves to re-suspend bottom materials more easily, causing many ponds to be more turbid during low water periods. As water levels increase with rain, clarity should improve.

Bill Lynch, Program Specialist, OSUE Natural Resources

Do I Need to Harvest My Fish?

Ponds provide many uses to the pond owner, with fishing being a primary use for many. Pond owners often ask if they need to harvest fish to maintain a quality fishery. I've fished many ponds in which no harvest occurred and enjoyed quality fishing, so the answer is no. As fish age and grow old, they will simply die and provide resources to the pond's ecosystem.

Harvest can be a useful tool in the management of the fishery, particularly if the pond owner wishes to create trophy bluegill or trophy largemouth bass fisheries. Excellent guidelines as to recommended harvest strategies for various fish management goals can be found at the Ohio Division of Wildlife website at www.dnr.state.oh.us/wildlife/Fishing/pond/default.htm.

If the pond owner allows fish to be harvested, he/she must be careful as excessive harvest of bluegills or bass can create problems. Overharvest of bass can quickly lead to a stunted bluegill population due to reduced predation on small bluegills. This reduces the amount of food available per bluegill and thus, bluegill growth slows. While overharvest of bluegills is rare, excessive harvest of too many large bluegills can degrade the fishing experience, especially for children. In general it is recommended that five pounds of bluegill be harvested per pound of bass. Again, consult the Ohio Division of Wildlife website for excellent recommendations on fish harvest.

Bill Lynch, Program Specialist, OSUE Natural Resources

Pond Factsheet Update

Available

Placing Artificial Fish Attractors in Ponds and Reservoirs: OSUE Factsheet A-1.

Pond Measurements: OSUE Factsheet A-2.

Controlling Filamentous Algae in Ponds: OSUE Factsheet A-3.

Chemical Control of Aquatic Weeds: OSUE Factsheet A-4.

Muddy Water in Ponds: Causes, Prevention, and Remedies: OSUE Factsheet A-6.

Understanding Pond Stratification: OSUE Factsheet A-7.

Winter and Summer Fish Kills in Ponds: OSUE Factsheet A-8.

Planktonic Algae in Ponds: OSUE Factsheet A-9.

Fish Species Selection for Pond Stocking: OSUE Factsheet A-10.

Cattail Management: OSUE Factsheet A-11.

Algae Control with Barley Straw: OSUE Factsheet A-12.

Ponds and Legal Liability in Ohio: OSUE Factsheet ALS-1006.

Ice Safety: OSUE Factsheet AEX-392.

Farm Pond Safety: OSU Factsheet AEX-390.

Notifying the Ohio EPA Prior to Applying Aquatic Herbicides: OSUE Factsheet A-13.

Duckweed and Watermeal: Prevention & Control: OSUE Factsheet A-14.

When to Apply Aquatic Herbicides: OSUE Factsheet A-15.

Pond Dyes and Aquatic Plant Management: OSUE Factsheet A-16.

Benefits & Problems of Aquatic Plants in Ponds: OSUE Factsheet A-17.

Note: these factsheets are available at ohioline.osu.edu.

2007 Pond Clinic Schedule

The following is the 2007 Ohio Pond Clinic schedule as of press time. For time, location, and other details, contact your County Extension or SWCD agent.

Thursday, August 9 - Mahoning County

Saturday, August 11 - Auglaize County (advanced all-day clinic)

Wednesday, August 15 - Morrow County

Tuesday, Sept. 18 - Farm Science Review (numerous pond topics)

Wednesday, Sept. 19 - Farm Science Review (numerous pond topics)

Thursday, Sept. 20 - Farm Science Review (numerous pond topics)

If you want a pond clinic scheduled in your county, contact your county OSU Extension or SWCD office and let them know of your desire. They are always appreciative of folks who offer their pond as a clinic site.

The Ohio State University

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Keith L. Smith, Associate Vice President for Ag. Administration and Director, OSU Extension.

TDD No. 800-589-8292 (Ohio only) or 614-292-1868.

Leafy and Small Pondweeds Continued.

Many pond owners choose to use aquatic herbicides to control leafy and small pondweed. Many products successfully control these two species provided the correct dosage is calculated and applied. Below are some of the active ingredients and trade names for products available for use on leafy and small pondweeds:

- Endothall potassium salts - Aquathol K, Aquathol Super K
- Endothall amine salts - Hydrothol 191
- Diquat dibromide - Reward, Weedtrine-D
- Fluridone - Sonar, Avast

All these products have some use restrictions and the pond owner wants to in part, choose the product to use based on restrictions. For example, restrictions on using the pond for crop irrigation varies from 5 days to 30 days between products. Thus, a pond owner irrigating pumpkins occasionally probably will use the product with a 5-day restriction rather than a 30-day restriction product.

Occasionally products get used that will not control either of these pond species. Copper sulfate and most chelated copper compounds are not recommended for control. Additionally, aquatic 2,4-D

products do a very poor job in controlling most *Potamogeton* pondweeds. Aquatic glyphosate products, such as Rodeo and Shore-Klear will not control any submerged plants, including pondweeds. Rather, these products are used to control aquatic emergent plants, such as cattails.

It is important for the pond owner to consider time-of-year when controlling submerged plants. It is best to treat when plants are vigorously growing but have not reached maximum summertime biomass. This means May and early June. Why? Once pondweeds and other submerged plants become dense in late June, the risk of a major fish kill rises if all of those plants are killed at one time. The pond has lost a major source of oxygen via photosynthesis, and now must decompose all the dead plants. Decomposition consumes large amounts of oxygen. By mid-June, the pond owner should at least consider spot treatments of critical areas only. Pond owners typically find granular formulations easier to spot treat with, but keep in mind, not all products have a granular form.

Bill Lynch, Program Specialist, OSUE Natural Resources