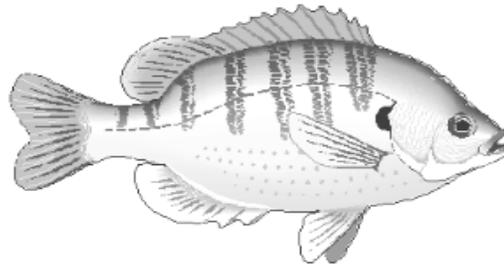


# Ohio Pond News



The Ohio State University



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## Did You Know?

- Hobby cage culture is a way a pond owner can easily grow food for the table and even freeze fillets for fine winter eating. Bluegills are easily grown in cages because they learn to eat artificial feeds quickly. Small bluegills (3-4 inches) can either be bought or obtained from the owner's own pond. Type "cage culture" into a internet search engine and learn more!

## Aquatic Dyes - When to Apply?

The use of aquatic dyes or pond colorants increases each year. It is a useful technique to control nuisance algae and submerged aquatic plants, if the pond owner doesn't mind the artificial blue color. It is particularly useful in ponds where little flow-through occurs because the color remains for a long time. In ponds formed by a dam, high flow-through rates from incoming water or rain can quickly dilute the color as dye leaves the pond in overflow water. Constant re-application is needed and this can become cost prohibitive.

A common question I receive as I travel the state doing pond clinics is "When should I apply the dye each year?" The answer is mid-late March. I encourage pond owners to apply by April 1 if possible and certainly by April 15. Why so early you might be asking? As the water warms in early spring, algae and aquatic plants that later become a problem have already begun to grow along the bottom. The purpose of adding a dye is to limit sunlight penetration in all but the shallowest areas of the pond. No light = no photosynthesis and thus plant growth is stymied. Thus, an early application can halt early growth of aquatic plants before they have a chance to reach nuisance levels.

Waiting till later to make the initial application has a major drawback. If plant growth has become lush, applying a dye can result in a fish kill. Even though dyes are not a herbicide, late applications will kill many of the plants. Why? You have severely limited photosynthesis and the lush plant growth

can't begin to produce enough food to stay alive without it's photosynthetic potential intact. Most of the plants will die and begin to decay. This consumes large amounts of oxygen in the water. If a hot, calm weather develops, it is quite likely more oxygen will be consumed by decaying and animal respiration than the pond is producing. If this continues, a summer fish kill can result. An aeration system can provide protection from summer fish kills if properly installed. For more information on summer fish kills, obtain OSU Extension Fact Sheet A-8-01 "Winter and Summer Fish Kills in Ponds".

Supplemental, small applications may be needed later to maintain the desired color and shading. After initially applying according to label instructions, note your pond's color. This can be easily done by tying a string to a heavy, white object and lowering it into the water until it just disappears from view. Record that depth. Every three weeks or so, repeat the procedure. If that depth has increased by 25% (i.e. the water is clearer) consider adding small amounts of additional dye until the desired depth is reached again. Checking color levels should occur until mid-September when plant growth begins to naturally decline.

The strangest dye application method I've encountered? Several Ohio pond owners actually pour the dye on the ice. I'll bet that looks bizarre from the air. When the ice melts, their pond is colored. Just make sure the ice is safe.

# Is Winter Aeration Really Necessary?

Does one really need to aerate his or her pond in the winter? This is an often asked question at pond clinics. During most Ohio winters, it make little sense to aerate ponds in the winter, especially if the system is using electricity and incurring a cost. If the pond remains open all winter or just occasionally has thin ice cover, the pond is in no danger of having an oxygen problem. Why? Oxygen levels are always high in very cold, open water because cold water holds more oxygen, animal and plant respiration is a fraction of it's level in summer, and oxygen-using decomposition occurs very slowly. Thus, an open pond will always have high oxygen levels in winter. Aeration adds nothing and is just costing money.

The exception is in a hard winter where ice is thick and snow covered, and persists for a long time. This can lead to a fish winterkill. What ponds are at a high risk for a winterkill? Ponds that are protected from the wind are at highest risk for two reasons. One, ponds open to the wind tend to freeze later and "open up" sooner than more protected ponds. This means less time ice covered as well as thinner ice for the winter. Those are real advantages. Second, on protected ponds there is less wind to blow the snow off the ice. This allows snow to build up to potentially thick levels, cutting off light to the aquatic world which severely reduces photosynthesis under the ice. Even in winter, photosynthesis by algae and plants is a pond's major source of oxygen. This is why ponds in un-glaciated Ohio are at a higher risk than those in the flatter areas of western Ohio. In western Ohio, snow blows off the ice easily, unless the snowfall was a heavy wet snow. Heavy wet snow on top of ice is the cause of most western Ohio fish kills.

Other important factors are water depth and amount of organic matter laying on the bottom. The deeper the pond, the more oxygenated water there is and the longer it takes for oxygen to be used up if photosynthesis has largely ceased. So, shallower ponds have a higher risk. Ponds with lots of black muck on the bottom are a higher risk because of a higher biological oxygen demand due to higher levels of decomposition. Yes, decomposition slows in cold water, but it still occurs. A new pond with very little bottom muck has a very low risk of a winter fish kill.

Be sure to read OSU Extension factsheet "*Winter & Summer Fish Kills in Ponds*" to fully understand how these winterkills occur. Many of these ponds could have been saved had they been aerated. How? Aeration not only adds oxygen to the water directly, but it keeps a small area of the pond open. This allows oxygen from the air to quickly diffuse into the water. An open hole of 10-15 feet in diameter can easily maintain healthy oxygen levels.

As a rule of thumb, I recommend folks with aeration systems to consider turning on their system once a pond has been ice-covered for over a month, particularly if the ice is snow covered or has become very thick. This should not be done if ice skating or other ice sports are a priority use of the pond. I consider no pond ice to be safe if the pond is being aerated somewhere within the pond. Aeration sets up currents and creates thin ice areas within what might otherwise be safe ice areas. Ice is off limits if the pond is being aerated.

## Safety and Your Pond!

Pond safety can be greatly enhanced by following these basic tips:

- Pond owners should know basic emergency first aid and CPR.
- Always closely supervise children around ponds, never allow someone to swim alone. Enroll children in swimming classes.
- Water and alcohol don't mix, discourage alcohol consumption around the pond.
- If swimming is not allowed, post it as such.
- Install a rescue post. A good rescue post is painted a bright color, has a life ring with an attached rope, and has the nearest phone location and emergency numbers painted on a sign.
- Never allow rocks, broken bottles, or other miscellaneous junk to be thrown into the pond or dropped along the shore.
- Check docks regularly for broken boards, protruding nails, or rotting supports and decking.
- If a boat is present, always lock it to a post or tree when not in use. When in use, provide one life jacket per person and have a life ring and rope in the boat at all times.
- Grade pond banks for easy egress, particularly around swimming areas.
- Never allow anyone on pond ice for ice-skating, walking, or ice-fishing unless the ice is a minimum of 6 inches thick. Never allow someone on the ice alone.

# Getting An Aquatic Plant Identified!

Pond owners often want to know what plant is growing in their pond. Here are some options to consider.

- Visit websites depicting aquatic plant pictures to aid in identification. Perhaps the most comprehensive website is called AquaPlant by the Texas Agricultural Extension Service. It can be located at [aqua-plant.tamu.edu/plant\\_Id.htm](http://aqua-plant.tamu.edu/plant_Id.htm). It not only provides an extensive library of pictures but also provides excellent information on management options.
- Take a sample of the plant to your County Extension office or Soil & Water Conservation District office. In some counties, the Extension agent is the aquatic plant guru while in other counties, SWCD personnel

are better able to identify the plant. Either office is more than willing to identify the “expert” for that county if you are in the wrong office.

- The plant sample can also be sent to the C. Wayne Ellett Plant & Pest Diagnostic Clinic on the OSU Columbus Campus. A nominal fee is charged and typically the pond owner works with the County Extension Agent to initiate the request. Terrestrial plants can also be identified by this clinic as well as many garden pests.
- Samples can also be taken to pond clinics if scheduled nearby.

## Pond Factsheet Update

Available at [ohioline.osu.edu](http://ohioline.osu.edu)

*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.

*Using Grass Carp to Control Aquatic Plants:* OSUE Factsheet A-19

## 2010 Pond Clinic Schedule

These are currently the pond clinics scheduled for 2010. If you want a pond clinic scheduled in your county during 2010, 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.

March 18, Thursday - Union County

April 19, Monday - Williams County

April 21, Wednesday - Knox County

Sept. 21, Tuesday - Farm Science Review—numerous presentations

Sept. 22, Wednesday - Farm Science Review—numerous presentations

Sept. 23, Thursday - Farm Science Review—numerous presentations

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## Ponds With A Purpose Workshops

Are you one of those pond owners who wants a deeper understanding of their pond and its management than can be obtained at a regular evening pond clinic? Two all day (9:00 AM - 3:30 PM) pond management workshops will be held for owners like yourself who want that additional information. The first will be held Saturday, May 1 at Cox Arboretum in Dayton, Ohio. The second will be held July 24 at the Gwynne Conservation Area, just west of Columbus, Ohio. Attendance is limited at both locations to 40 people, so register now. Cost is \$35 and includes lunch and hand-outs. The following presentations will be made:

- How Ponds Function—Understanding is the Key!
- Aquatic Plant Management: Problems and Corrective Measures.
- Pond Aeration—Improve your Pond’s Health!
- Fish Stocking: The Good, the Bad, and the Ugly!
- Avoiding Fish Kills.
- Pond Management Strategies: Big Bluegills or big Bass, or a Little of Both.
- Pond Wildlife: How to Attract Them!

Visit Ohio State University Extension’s WWW site “Ohioline” at <http://ohioline.ag.ohio-state.edu>

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