

As the temperature rises, so does the urge to spend time swimming, boating, and fishing. Pond owners have an all-access pass to these activities, but ponds require careful management. Here are a few basic tips that will help you keep your pond in peak condition.

Locations

1101 N. Cole St., Lima, OH 45805
419-223-1362

508 Bissman Ct., Mansfield, OH 44903
419-525-1644

1776 Marion-Waldo Rd., Marion, OH 43302
740-389-5991

contact.us@alloway.com
www.alloway.com



Alloway is a full-service environmental laboratory specializing in analyses on drinking water, wastewater, and solid and hazardous waste. In addition, Alloway offers innovative software, laboratory development, and training options. With three locations to serve you and more than 25 years of experience, Alloway is your resource for defensible data.

Pond Management 101

A Resource for Pond Owners



Initial Construction

- If you are constructing a new pond, be sure to seek professional help. Proper construction will help you avoid issues later. The size and depth of the pond will depend on the location, soil conditions, and intended purpose.
- Generally, ponds should be at least 8 feet deep in 25 percent of the pond area. Depths greater than 12 feet are more expensive and will not have any benefits for fish.
- Smaller ponds tend to be more difficult to manage, while larger ponds can be more cost effective and sustainable.
- The shoreline should follow a 3:1 slope. In other words, the pond should get one foot deeper for every three feet you move toward the center of the pond. This slope creates spawning areas and can reduce the growth of congestive shoreline vegetation.
- The best way to prevent fish kills is to have a properly constructed pond with a 3:1 slope.

Stocking the Pond

- If you plan to use your pond for fishing, you will want to carefully stock your pond with the right types of fish. In Ohio, the best fish are largemouth bass, bluegills, and channel catfish. If adequate numbers are stocked initially, largemouth bass and bluegill populations will be self-sustaining; channel catfish may need to be replenished periodically. Other popular fish options include redear sunfish for fishing and eating, and triploid grass carp (white amur) for aquatic vegetation control. ODNR provides charts (see p. 11 of the ODNR link below) for stocking quantities based on the type of fish being used and the size of the pond.
- The fish listed above will thrive in the average Ohio pond. If fish are stocked haphazardly, there will be competition, predation, and some species may overtake the pond entirely. For these reasons, ODNR recommends that the following fish not be stocked in Ohio ponds: green sunfish, hybrid sunfishes, white crappies, black crappies, yellow perch, bullheads, common carp, and gizzard shad.
- It can take up to three years for fish populations

to develop and mature. Refrain from catching fish during this period.

- Ohio ponds can typically support up to 250 pounds of fish per acre. Ponds can be fertilized to increase fish stock, but most ponds do not need fertilization.
- In other states, check with your Department of Natural Resources for the best stocking fish.

Vegetation

- Plants are very important to the health of a pond. Most of the dissolved oxygen in a pond is the by-product of photosynthesis.
- Without proper management, plants can overtake a pond and some types of vegetation can be toxic. When algae bloom and then die, their decomposition robs the water of its oxygen and can lead to a fish kill. Some forms of algae are toxic to animals and humans. Dense vegetation is a haven for small animals like muskrats, and it can attract mosquitoes and other pests.
- There are mechanical, biological, and chemical ways of reducing vegetation. Be sure to research the best way to handle your specific vegetation problems and follow the treatment directions.

Fish Kills

- Fish kills are usually the result of suffocation (because oxygen supplies in the pond have been depleted), poison, or disease.
- It is best to test the water during and after a fish kills; however, it may not be apparent that a fish kills has occurred until after the fact. Keep record of the weather and pond conditions so you will be less likely to incur the same problem again.
- Winter kills occur when ponds are snow covered and oxygen levels drop because sunlight cannot penetrate through snow and ice. Removing at least 30 percent of accumulated snow will allow enough light in to sustain fish.
- Summer kills are a result of four factors (either individually or combined): a streak of cloudy, hot, still days; large-scale dying of microscopic plants; sudden thermal turnover (inversion) due to weather; and chemical treatment of algae or plants that results in excess decay.

Water Quality

- As a general rule of thumb, you should test your pond water during peak use times, typically in the summer. Alloway recommends testing your pond water for fecal coliform bacteria, ammonia, and pH.
- Coliform bacteria are present in all ponds, but dangerously high levels can occur in ponds that receive human wastes from septic systems or animal wastes from barnyards and wildlife. Some bacteria can cause illness, so be sure to have the water tested if the pond is used for swimming or animal drinking. It is recommended that swimmable waters contain less than 200 fecal coliform bacteria per 100 mL of water.
- Ammonia (NH_3) is a gas produced by fish as part of normal metabolism. Ammonia can also come from agricultural and residential run off. Ammonia toxicity directly corresponds to pH and temperature levels. The higher the pH and/or temperature, the more toxic the ammonia. Even at low levels, ammonia poses a threat to fish. The recommended level for ammonia is less than 2 mg/L or 2 ppm.
- pH is a measure of acidity or alkalinity. If pond water is 6.5 or below, it is acidic. Anything higher than 7.5 is considered alkaline. High pH levels are a factor in the conversion of ammonia to toxic ammonia. Low pH can accelerate the release of metals from rocks and sediments. The ideal pH for healthy fish is somewhere between 6.5 and 8.5.
- Another test you may consider, particularly if you have had a fish kill, is dissolved oxygen. This test must be performed on-site by a professional.
- Alloway can perform water-quality tests for your pond. Contact us for pricing and sampling information.

Resources

- <http://www.dnr.state.oh.us/Portals/9/pdf/pondmgt.pdf>
- <http://www.epa.state.oh.us/Default.aspx?tabid=5151>
- <http://www.ohioalgaeinfo.com>