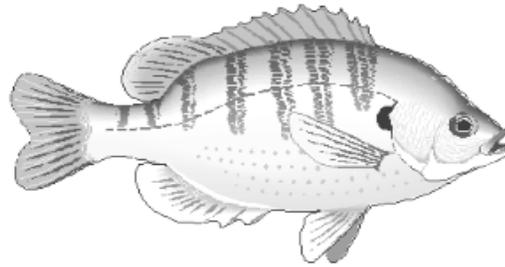


Ohio Pond News



The Ohio State University



Fall 2008

Volume 7, Issue 4

Inside this issue:

Which Fish species to Stock	1
How Many Fish to Stock?	2
Keys to a Successful Fish Stocking	2
Fall versus Spring Fish Stocking	3
Pond Factsheet Update	3
2008 Pond Clinic Schedule	3

Which Fish Species to Stock

Many pond owners want to stock a wide variety of fish species in their ponds, usually because they've enjoyed catching these species in Lake Erie, the Ohio River, or from Ohio's numerous reservoirs. Many of these species do not do well in ponds and small lakes and some can even ruin the fish community. It is imperative owners take time to not only consider which species they desire to stock, but also the possible ramifications and costs associated with stocking a species not well suited to ponds and small lakes.

Only four fish species can be expected to do well when stocked in small water bodies. They are largemouth bass, bluegill, redear sunfish, and channel catfish. Why are they successful? The pond and small lake environment is best characterized as being warm water, vegetated habitat. This type of habitat is exactly where the largemouth bass, bluegill, and redear sunfish evolved. They do not do well in large open water systems and in coolwater habitats. Channel catfish are generalists, meaning they can do well in a wide variety of habitats, and do very well in warm water. The most typical pond fish community is composed of only largemouth bass and bluegills. Channel catfish are stocked into about 10% of ponds and small lakes, and redear sunfish less so. Redear sunfish are becoming popular because of their tendency to control snails.

Fathead minnows are often stocked as supplemental food for largemouth bass but really should not be stocked once bluegills are reproducing on a consistent basis. Why? Feeding largemouth bass a steady diet of fathead minnows will reduce their predation

on small bluegills, which will lead to slower bluegill growth and possibly stunting. Stocking fathead minnows can be considered in a new pond where bass may struggle to feed for a year or two.

There are number of "glamour" predator species that people want in their ponds, like walleye, northern pike, and smallmouth bass. These are considered to be coolwater fish species, and do poorly in ponds and small lakes due to warm summer water temperatures and a lack of suitable spawning habitat. The best that can be hoped for is that a few survive, manage to grow slowly, and provide a novelty catch. So few survive that it is rare they cause competition problems for largemouth bass in Ohio ponds.

Both crappies and yellow perch are often stocked into ponds. They rarely do well and crappies can actually ruin the fish community. Every once in a while, crappies produce a huge year class that can overwhelm the food supply for the desirable species in the pond. They can also jeopardize survival of bass and bluegill fingerlings because they are essentially fish eaters once they reach six or so inches in length. Yellow perch eat the same prey types as bluegills, which leads to competition problems for food.

Are there undesirable species? Yes! Green sunfish, bullheads, and common carp are all species that should not be stocked. They are prolific spawners, compete with desirable species, and the latter two can result in continuously muddy water. Once they predominate, renovation is the only way to re-establish a desirable fish community.

Did You Know?

- Putting bluebird boxes in or next to your pond sounds absurd but actually is an effective way to attract nesting tree swallows. These graceful birds are voracious insect eaters, including mosquitoes. If you place them in your pond, do it in very shallow water. Be sure to clean out the boxes annually in September. Also, develop a strategy to dissuade house sparrows from using the boxes.

How Many Fish To Stock?

Now that the pond owner knows what species are desirable to stock and which species to avoid, the question becomes how many to stock and how big should they be. What follows are recommended numbers and sizes for the four fish species that do well in ponds and small lakes.

Largemouth bass— In a new pond or a pond lacking a fish community, stocking 100, 2-4 inch fingerlings per acre is recommended. Supplemental stocking of a pond already having a largemouth bass population requires stocking larger fingerlings and fewer of them. In this situation, it is recommended stocking only 50 fingerling bass per acre that are 4-6 inches in length.

Bluegill - In a pond with no existing fish community, stocking 500, 2-3 inch fingerlings per acre is recommended. For supplemental stocking situations, it is recommended 250, 3-5 inch bluegills be stocked. An important note for bluegill supplemental stocking. Bluegills have a high reproductive rate and just a few adult pairs can re-populate a bluegill population within a few years. It is rare that supplemental bluegill stocking is needed. Indeed, there is a risk of stunting bluegill growth if bluegill are stocked too frequently.

Redear sunfish - This species has a lower reproductive rate than bluegills and therefore is rarely stocked alone with largemouth bass. They do not produce enough prey to keep the bass population healthy. They are typically stocked in conjunction with bluegills at a ratio of 50:50. Thus, both species would be stocked with 2-3 inch fingerlings at 250 per acre of water. Redear sunfish are often stocked into ponds and lakes with a pre-existing bass-bluegill community. Stocking 250 larger, 3-5 inch redear sunfish is recommended for these situations.

Channel catfish - This species grows well in ponds and small lakes and do not cause problems unless overstocked or allowed to reproduce. Reproduction is rare in ponds. If an existing fish community is absent, stocking 100, 2-4 inch fingerling per acre is recommended. For supplemental stocking, it is recommended stocking only 50, 4-6 inch fingerlings per acre.

Why stock larger fingerlings for supplemental stockings? If largemouth bass are already present, we need to stock larger fingerlings of all species to reduce predation by the largemouth bass on the newly stocked fish.

Keys to a Successful Stocking!

The two keys to a successful fish stocking is to purchase high-quality, good condition fish and to minimize stress during the transportation and stocking activity. In that context, here is a list of points to consider when planning to stock fish.

- Talk to fellow pond owners who have stocked fish, asking who they bought from and were they satisfied. Did they notice any post-stocking mortality?
- Try to buy the best condition fish a commercial propagator has on hand. As an example, if his/her fingerling bass are 2-5 inches in length, try to buy 4-5 inch fingerlings.
- Check the fingerlings. Good fingerlings are robust in shape and do not look emaciated. Ask when they last ate. Fish should not have been fed the 24 hours prior to transportation.
- If possible, go get the fingerlings yourself. That way you can more easily accomplish the above two points.
- Fingerlings should be transported in heavy duty plastic bags inflated with pure oxygen. Reputable propagators will be able to do this if you pick-up your fish. Take along a cooler or box to support the bags.
- Stock fish when water temperatures are below 65 F, and preferably below 60 F. Lower water temperatures reduce fish stress, which in turn reduces post-stocking mortality.
- Water temperature in the hauling water (tank or bag) should not differ from the pond water temperature by more than 5 F, preferably by only 2-3 F maximum.
- If the temperature difference is higher than 5 F, pond water needs to be added to the bag or tank slowly so that the temperature equalizes at a rate of 2 F per hour.

continued on back page

Fall Versus Spring Fish Stocking

As mentioned previously, fish survival after stocking is enhanced when stocking is done in colder water. The question of interest then becomes "Should I stock in fall or spring", because both seasons have a period of optimal water temperatures for stocking. I prefer fall stockings when possible for one major reason. Reduced exposure to bacterial and viral disease pathogens and thus a reduced risk to a pathogen induced fish kill.

For most pathogens, abundance is tied to water temperature. As waters cool in October and November, pathogen levels decline and will continue to decline into winter. Fish stocked in fall will have low exposure to pathogens and it is rare that water temperatures suddenly rise in fall and create a spike in pathogen levels that could threaten newly stocked fish. Thus, fall stocked fish not only are experiencing a period of declining pathogen levels, but also enjoying lower levels of stress due to colder water. Less stress = health-

immune systems.

Spring provides for a different sequence of events that occasionally can cause newly stocked fish to die. As spring waters warm, pathogen levels are increasing. If waters warm more quickly than normal, stocked fish can have elevated levels of stress at a time pathogen levels are increasing rapidly. And unfortunately, spring means warming water and continued elevation of pathogen levels. Stocked fish which might be stressed due to transportation, netting, and dumped into a new environment might not be afforded adequate time and conditions to de-stress. This can result in fish deaths. Indeed, all reports I've ever received about post-stocking fish mortality have occurred in spring, particularly after a sudden week of hot weather in April or May. If stocking must be done in spring, do it earlier rather later to maximize time spent in colder water after stocking. If it were my pond, I'd stock during the first three weeks of April and make sure the weather will remain seasonal or cooler than normal for a week or so. Fall is better.

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.

2008 Pond Clinic Schedule

There are currently no pond clinics scheduled for the remainder of 2008. If you want a pond clinic scheduled in your county during 2009, 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.



Grant McOmie/k.su.com

Ohio Pond News
c/o Bill Lynch –Program Specialist
Aquatic Ecosystem Management
The Ohio State University
School of Environment & Natural Resources
2021 Coffey Road
Columbus, OH 43210

continued from page 2

- If fish are delivered, check with the propagator beforehand to verify that he/she will do acclimation if need be. When the vehicle arrives, be sure the propagator checks tank and pond temperature.
- If fish are in bags, a good method to equalize temperatures is to float the bag in the pond or lake for 3-4 hours. This will allow slow acclimation by the fish in the oxygenated bag.
- It is a good idea to take your water temperature the night before delivery or pick-up and let the propagator know. The propagator might be able to adjust the water temperature in the bags prior to filling with fish and oxygen.
- Channel catfish fingerlings should be transported in a separate bag. On occasion, a catfish spine punctures a bag and water is lost. No sense in losing the other fish species if this should occur. Double-bagging catfish is wise.

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

The Ohio State University

William E. Lynch Jr
Program Specialist,
Aquatic Ecosystem Management
2021 Coffey Rd.
Rm 379 Kottman Hall.
Columbus, Ohio 43210
Phone: 614-292-3823
Fax: 614-292-7432
Email: lynch.5@osu.edu

This newsletter contains recommendations that are subject to change at any time. These recommendations are provided only as a guide. No endorsement is intended of products mentioned, nor is criticism meant for products not mentioned. The editor, authors of articles and Ohio State University Extension assume no liability resulting from the use of the recommendations.

All educational programs conducted by Ohio State University Extension are available to clientele on a nondiscriminatory basis without regard to race, color, creed, religion, sexual orientation, national origin, gender, age, disability or Vietnam era veteran status.

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

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