THE OHIO STATE UNIVERSITY EXTENSION

Extension FactSheet

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Fish Species Selection for Pond Stocking

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Most commercial hatcheries offer many species of fish that a pond owner can purchase for stocking into his or her pond. A number of these species are better suited for the pond environment than others, and some can actually cause problems. The intention of this fact sheet is to provide information on which fish species are recommended for stocking, those species that are often stocked but rarely provide the benefit intended, and those species that should not be stocked into a pond. Included are those species that are typically available in Ohio for pond stocking. There may be species not on this list that the pond owner is familiar with, but they are rarely available commercially.

Recommended Species

Largemouth Bass

This species is the best predator for stocking into ponds to maintain a healthy fish community. They have evolved to reproduce and prey effectively in warm, vegetated areas of lakes. When young, largemouth bass prey on microscopic animals but quickly switch to a diet of fish and crayfish.

Stocking 100, 2-4 inch fingerlings per acre is recommended for a new pond or for restocking after a fish kill. Largemouth bass reproduce well in ponds, so supplemental stocking is only needed if excessive harvest has occurred. In this case, the owner should stock 50, 4-6 inch fish per acre. An alternative supplemental stocking, albeit more expensive, is to stock 20, 8-10 inch bass per acre. This latter strategy allows the pond to return to a desirable condition more quickly.

Bluegill

Bluegills also function well in shallow, warm, vegetated areas of lakes and therefore are the most commonly stocked species to provide food for largemouth bass. They are prolific spawners and can quickly become stunted if sufficient numbers of bass are not present and/or the pond becomes choked with vegetation. Young bluegill eat microscopic animals, while adults prey on insects, fish eggs, small crayfish, and occasionally small fish.

Stocking 500, 1-3 inch fingerlings per acre is recommended for a new pond or for restocking after a fish kill. Bluegills reproduce very well in ponds so supplemental stocking is rarely needed. Should supplemental stocking be necessary, the owner should stock 250, 3-5 inch fish per acre to avoid having them eaten by largemouth bass or other predators.

Redear Sunfish

This species provides an alternative to bluegills. They offer three advantages that cause some pond owners to stock them. First, they generally grow larger than bluegills. Second, they are voracious predators of pond snails whose abundance can displease some pond owners. Third, they produce fewer young than bluegills and are not as likely to become stunted.

Because of their lower reproduction rate, redear sunfish, when stocked alone, rarely provide enough prey to maintain a healthy bass population. Therefore, it is recommended that redear sunfish and bluegills be stocked together. Stocking 250, 1-3 inch redear and 250 bluegill fingerlings per acre is recommended for a new pond or

for restocking after a fish kill. Should supplemental stocking be necessary, the owner should stock 250, 3-5 inch fish per acre to avoid having them eaten by largemouth bass or other predators.

Channel Catfish

Channel catfish grow very well in ponds and do not cause problems unless overstocked. They will not reproduce in ponds unless containers are provided for them to spawn in. It is not recommended that containers be provided as that can cause an overpopulation of catfish. New ponds can be stocked with 100, 2-4 inch fingerlings per acre. Existing ponds should be stocked with 100, 4-6 inch fish per acre to avoid having them eaten by the resident bass population.

Fathead Minnow/Golden Shiner

These are two minnow species that, by themselves, do very well in ponds. Their populations decline dramatically in the presence of largemouth bass. Their stocking is recommended in two situations. In a new pond, stocking 1,000 adult minnows or shiners per acre will provide food for stocked bass until bluegills and/or redear sunfish can spawn and produce young for bass to eat. The second situation is in ponds where the owner only wants to fish for largemouth bass. Stocking 1,000 adult minnows or shiners per acre on several occasions throughout the year can result in a quality bass fishery. The pond owner should be careful when purchasing minnows or shiners. Occasionally, fingerling carp and bullheads will contaminate a load of minnows/shiners. If they reproduce after stocking, severe problems can occur.

Grass Carp

This species is used primarily to control submerged vegetation problems. Grass carp grow and survive well if the plant species present are those they will readily eat. It is generally recommended that 15-20 per acre be stocked if the pond has a severe (> 60% coverage) vegetation problem, 8-12 per acre if there is 40-60% vegetation coverage, and 4-6 per acre if coverage is 20-40%. In ponds with little vegetation, it is recommended not to stock grass carp as a lack of food results in their poor survival.

Note: in Ohio, it is only legal to stock sterile, triploid grass carp. It is advisable to verify with your fish provider that the grass carp you purchase are indeed triploids.

Other Commonly Stocked Species

A variety of other species are stocked into ponds with varying degrees of success. Stocking rates have not been developed for these species. In general, the owner should not stock more than 100 per acre of any of the following species.

Yellow Perch

Yellow perch is a frequently stocked species into Ohio's ponds. They tolerate warmer water and prefer vegetated areas, conditions common in Ohio ponds. However, reproduction is highly variable from year to year, and they eat identical foods that bass and bluegills eat.

Walleye

Walleye is a predator species of large rivers and lakes. They grow poorly and do not reproduce in ponds. A few stocked walleye may survive and provide a novelty catch to anglers, but a pond owner should not rely on them to keep a pond in balance.

Northern Pike

This species is a predator inhabiting weedy, shallow areas but do poorly in Ohio ponds because they require cool water in summer. Like walleye, a few stocked pike may survive and provide a novelty catch to anglers, but a pond owner should not rely on them to keep a pond in balance.

Black and White Crappie

Each year, many of Ohio's largest crappies are caught in ponds, so it is understandable that many pond owners want to stock them. However, both crappie species are unpredictable in ponds. In the best case scenario, the stocked crappies grow well but reproduce poorly and do not overpopulate the pond. Frequently, the opposite happens. Reproduction is high and small crappies overpopulate. They prey heavily on fry bluegills and bass, and populations of these desirable species decline. When stocking crappies, it is recommended that a high adult bass density be maintained to "crop" off small crappies should they become abundant.

Smallmouth Bass

Although closely related to the largemouth bass, smallmouth bass prefer habitats very different than their cousin. This is a species that does best in rivers, streams, and very large lakes with an abundance of rock, gravel, and sand. While smallmouth bass stocked in ponds may survive and provide the occasional novelty catch, they often grow slowly and do not reproduce. The exception to this would be the deeper, borrow pit ponds around Ohio where the bottom is largely sand and gravel. Smallmouth bass do fairly well in these systems.

Rainbow Trout

Rainbow trout will only survive in Ohio's ponds from mid-October through April because of their need for cold water. Ohio's ponds are too warm for their survival during summer. Some pond owners stock them in fall to provide a winter fishery, and hope nearly all are caught by the end of April.

Hybrid Striped Bass

It is not recommended that this species be stocked into ponds containing existing largemouth bass populations as severe competition problems will exist. They do well when stocked alone with either fathead minnows or golden shiners. They do not reproduce in ponds, so supplemental stockings are needed if harvest is allowed.

Not Recommended

Common Carp

Carp can very quickly turn a pond a muddy color if allowed to persist at even low densities. Their spawning and bottom-feeding activities constantly disturb bottom mud and keep it suspended throughout the water. No recommended species does well in a muddy pond. If a few carp are in a pond, the owner is well-served by maintaining a very high largemouth bass population to ensure enough predation on small carp to keep carp numbers very low.

Yellow, Brown, or Black Bullhead

While channel catfish are acceptable in ponds, these closely related species are not. At high densities, they also cause a pond to become muddy. Their very high reproduction rate coupled with their predation on bass and bluegill eggs can quickly result in them overpopulating a pond.

Green Sunfish

While a cousin to the bluegill and redear sunfishes, this sunfish species should not be stocked into ponds. They rarely grow more than six inches, but their very large mouth allows them to out-compete other sunfish species as well as small largemouth bass. When stocked into a pond, they quickly become an abundant species at the expense of desirable species.

Purchasing Considerations

It is recommended that the pond owner go to a commercial hatchery with the attitude "these are the species I want to stock" rather than asking the question "which fish species should I stock?" The phrase "buyer beware" certainly applies to fish purchases because it is impossible to return them if the pond owner is not satisfied with that species' performance. Plus, if a species is stocked and it causes problems, it can be expensive to correct the problem.

The pond owner's fish management goal should be of his or her own choosing, and not be influenced by what the hatchery may have to sell. Commercial hatcheries, being a business, need to make money and some less-reputable hatcheries will recommend a species just to move the inventory. Fortunately, most Ohio commercial hatcheries realize the success of their business depends on keeping pond owners satisfied and not selling species that will cause problems.

When to Stock Fish?

Fish stocking should always be accomplished during either fall or spring, preferably when water temperatures are less than 65 degrees F. Never stock a pond if water temperatures exceed 75 degrees F. Handling stress is reduced in cooler water but will cause delayed, high mortality in warm water. Also, the water temperatures in the truck's hauling tank and in the pond should only differ by no more than 5 degrees F at stocking. A larger difference can shock the fish and lead to mortality. Minimum differences are achieved most frequently in spring and fall. If the temperature difference exceeds 5 degrees F, pond water should be added to the tank slowly so that the temperature change does not exceed 2 degrees F per hour. This requires the deliverer to remain longer than planned (which they don't like). It is a good idea to take your pond's water temperature the evening before the delivery and provide that information to the hatchery selected. They can then load the delivery truck with water that closely matches your pond's temperature.

Summary

Years of research and experience with fish stockings have demonstrated that largemouth bass and bluegills are the two species most suitable for stocking Ohio ponds. Redear sunfish and channel catfish are stocking options that in most instances perform well for the pond owner. Grass carp can be stocked if vegetation control is desired and several minnow species, when stocked initially, will provide food until the sunfish species begin to reproduce.

Stocking of common carp, bullheads, or green sunfish is to be avoided. All these species can lead to considerable degradation of the pond and its fish community. Another source of these species in ponds is the bait bucket. Many bait stores receive their minnows from wild sources and often contain small carp, bullheads, or green sunfish. Many pond owners prohibit the use of minnows in their ponds during fishing.

A variety of other fish species are stocked into ponds, often because pond owners are familiar with them during fishing trips to Lake Erie or the state's many large reservoirs. These species do poorly in ponds and at best, will provide a novelty catch for the angler. In some cases, they may actually cause problems. White and black crappies are an example of such a species.

Pond owners should be proactive and determine in advance the species they want to stock. This avoids "being talked" into species that will provide little return to the owner. Fish stocking should always occur either in spring or fall. Summer stocking can cause considerable stress to fish and ultimately their death. Pay attention to differences in water temperature between truck tanks and the pond to be stocked. Minimize those differences.

Note: Descriptive life history notes on most of the above species can be obtained by writing the Ohio Department of Natural Resources Public Information Center, 1952 Belcher Drive, Columbus, Ohio 43224 or by accessing the Ohio Division of Wildlife web site at www.dnr.state.oh.us/wildlife/fishing/aquanotes/aquanotes.html

Additional Pond Management Information

Placing Artificial Fish Attractors in Ponds and Reservoirs; Ohio State University Extension Fact Sheet A-1.
Pond Measurements; Ohio State University Extension Fact Sheet A-2.
Controlling Filamentous Algae in Ponds; Ohio State University Extension Fact Sheet A-3.
Chemical Control of Aquatic Weeds; Ohio State University Extension Fact Sheet A-4.
Muddy Water in Ponds; Ohio State University Extension Fact Sheet A-6.
Understanding Pond Stratification; Ohio State University Extension Fact Sheet A-7.
Winter and Summer Fish Kills in Ponds; Ohio State University Extension Fact Sheet A-8.
Planktonic Algae in Ponds; Ohio State University Extension Fact Sheet A-9.
Ohio Pond Management; Ohio State University Extension Bulletin 374.
Controlling Weeds in Ohio Ponds; 41 minute videotape. VT50.

Visit your county office of Ohio State University Extension for copies of these resources.

Visit Ohio State University Extension's web site "Ohioline" at: **http://ohioline.osu.edu**

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