

# Your Pond Update

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## Ah, Autumn... A Time to Stock Fish to Ponds

I admit it: I love fish and fishing, perhaps more than most folk. This uncommon piscatorial predilection has served as the basis for every substantial facet of my professional life and commands a large proportion of my recreational time as well. Fortunately, recreational fishing is a primary goal for the management of many managed ponds. Unfortunately, fish are not subject to spontaneous generation—do not magically appear—in newly constructed human-made ponds. If a pond owner or manager wants fish in a new pond, s/he will have to put them there.

### Choosing the Right Fish Species

Perhaps the most cost-effective goal for pond fisheries is through the management of self-sustaining fish populations. There are a few reasons why simple assemblages of very few species work better and are easier to manage in ponds. In our region, that is typically the classic combination of Largemouth Bass (*Micropterus salmoides*) serving as a large predator and Bluegill (*Lepomis macrochirus*)—sometimes in combination with Redear Sunfish (*L. microlophus*)—serving as the prey base. Channel Catfish (*Ictalurus punctatus*) can be added into the mix just for fun and aren't likely to detract from fisheries for the other two populations.

Most small ponds are not much like large, natural lakes hewn into the geologic diversity of the landscape by the passing of glaciers. Small ponds aren't even much like large impoundment reservoirs formed by damming rivers and flooding the diverse contours of branching stream valleys. In contrast to ponds, large sites tend to have a larger diversity of habitat types and food resources that can support numerous species. This diversity inherent to large sites allows populations of different game species to separate themselves—to partition by niche. This separation reduces excessive competition between species that would otherwise limit growth or ultimately result in the elimination of some populations. The bottom line is that lakes and reservoirs can support diverse, complex, multi-species fisheries.

By definition, ponds are relatively small. There is simply less diversity of resources and habitat available to pond fisheries by nature. Thus, forcing a very simple ecology—a simple predator–prey relationship where Largemouth Bass don't have a choice but to feed on Bluegill (or Bluegill and Redear Sunfish in combination) and thus keep their numbers in check—is more likely to be sustainable, likely to be more easily managed, and managed so their population structures meet goals for the fishery.

Some augmentation of the pond fishery and exceptions are possible. However, different or additional game species are either not necessarily appropriate for the novice pond manager or are mainly to serve put-and-take fisheries without expectation of self-sustaining populations. Some excellent supporting references specific to Ohio (complete with guidance on numbers and sizes of fish to stock) are the classic “Pond Management Handbook” (Austin et al. 1996) and the fact sheet “Fish Species Selection for Pond Stocking” (Lynch 2002). Of course, feel free to drop me a line personally if you'd like to discuss other possibilities.

Many pond owners will introduce minnows, most commonly in Ohio Fathead Minnows (*Pimephales promelas*), to a pond before introducing any game species. Fathead Minnows are cavity nesters. If introduced with appropriate spawning habitat (e.g., old shipping pallets) and permitted to spawn before any game fish are introduced, there will be an excellent supply of forage across different size classes (in the form of adult minnows and their fry) for the newly introduced bass and

sunfish. While this can provide an excellent initial burst of growth and fat reserves to help the new fishery overwinter, a minnow population isn't likely to persist as the bass grow. That's actually good because having too-easy access to soft, tasty minnows will limit a bass' interest in eating pointy-finned Bluegills and keeping that population in check.

## Fisheries Management Strategies

Because of the nature of biological competition, a pond environment is not likely to be able to sustain both high numbers and large individuals of either or both species; as resources become limiting, managers almost always have to choose: numbers of fish or large sizes? You don't get both lots of fish and big fish. Bass and sunfish populations within ponds are usually managed over time to one of several broad strategies: 1. "do nothing" (risky and not recommended if quality fisheries are important to your pond-management goals), 2. "balanced" or "all-purpose fishing" (surprisingly fleeting and often trickier to manage over time than the following two strategies), 3. "large-Bluegill fishing," or 4. "trophy-bass fishing" (fig. 1: Austin et al. 1996). In general, the large-Bluegill option tends to find plenty of willing biters available and is thus a good option for children and families. The trophy-bass option tends to produce relatively few catchable fish and so isn't necessarily good for children, but may be the best approach (or only one tolerated by some) for experienced connoisseurs of the sport. Each of these broad strategies can be managed through time using selective harvest as necessary and management of aquatic plants to an appropriate coverage. Consult Austin et al. (1996) and Lynch (2002) for plenty of detail.

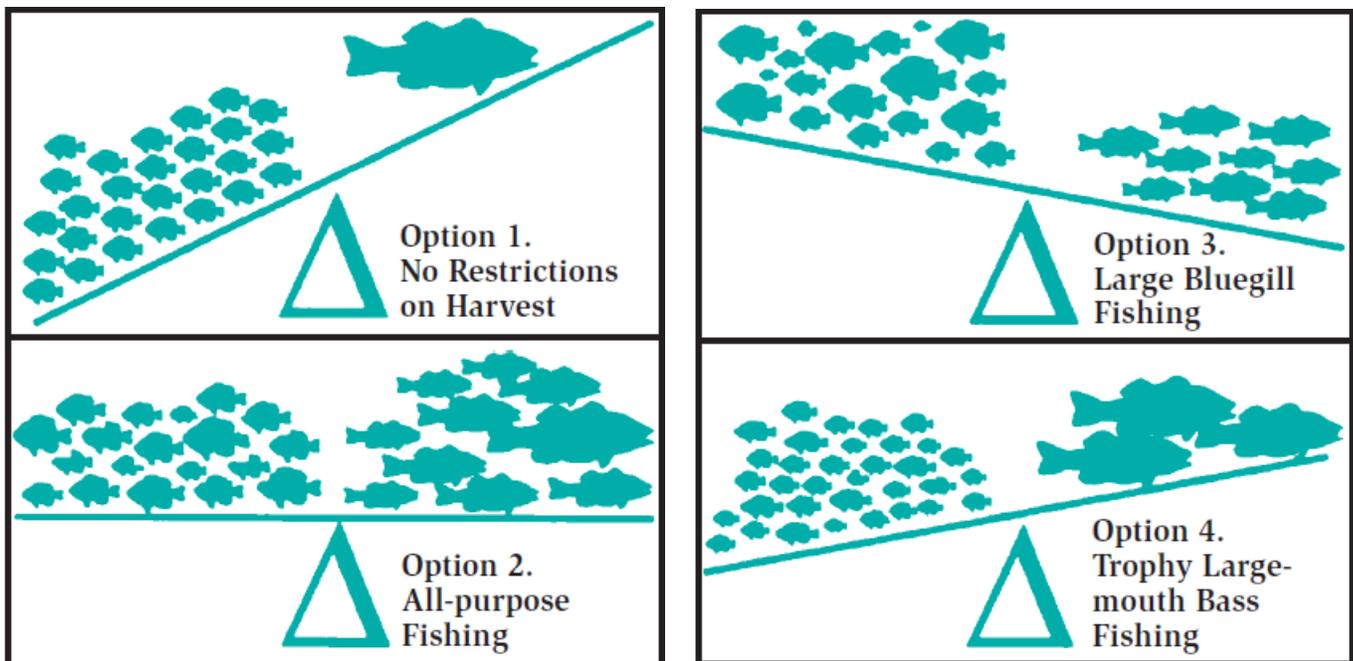


Figure 1. The four general strategies for conventional pond fisheries management in Ohio. Relative numbers and sizes of Bluegill (sunfishes) are represented along the left of this figure and Largemouth Bass along the right (Austin et al. 1996).

## Cool Water = Less Stress for Translocating Fish

Moving fish is prone to cause them stress; extreme stress can be lethal. Lower temperatures both lower fish metabolism and limit the activity of most parasites and diseases, so the best time for your stocking activities is when the water is cool: namely, spring or (even better for game species) fall. Stocking is usually best when your surface water temperatures are around 65°F or lower (Lynch 2002). If the water temperature of the hauling container differs from that of the pond by more than 5°F, carefully acclimate fish to the different temperature before releasing them to the pond following the procedures outlined by Lynch (2002) or Austin et al. (1996).

Why favor autumn? Austin et al. (1996) offer that "Ponds are often stocked in the fall because fish tend to be more available from commercial fish dealers at that time"; however, there are additional and equally good reasons to introduce

game fish to a new pond in the fall. Ohio Pond News 7(4) points out that in spring—a period of appropriately cool water with rising temperature—fish pathogens and parasites also tend to be on the rise, but in autumn—with generally falling temperatures—those pathogens are on their seasonal decline (Lynch 2008). Fewer potential pathogens and parasites give the newly stocked fish a greater likelihood of surviving their adjustment to the new environment. If you've introduced minnows in advance, their young will be available to feed your smaller new recruits (especially the young Bluegill) by fall as well.

If you'd like to introduce minnows, ideally they would be introduced with spawning substrate the spring before any game species are stocked (Schrouder et al. 1994). In Ohio, Fathead Minnows tend to begin seasonal spawning in May and may continue into August (ODNR). That gives ample time to introduce your game fishes with the coming fall of the same year.

As always, feel free to drop me a line or look to <http://ohioline.osu.edu/lines/ennr.html> with additional pond-management questions. ... and good luck out there!

## References

- Austin, M., H. Devine, L. Goedde, M. Greenlee, T. Hall, L. Johnson, and P. Moser. 1996. Pond management handbook: a guide to managing ponds for fishing and attracting wildlife. Ohio Department of Natural Resources, Division of Wildlife, Columbus, OH.
- Lynch, W. E. Jr. 2002. Fish species selection for pond stocking, extension fact sheet A-10-02. School of Environment and Natural Resources, Ohio State University Extension, Columbus, OH.
- Lynch, W. E. Jr. 2008. Ohio Pond News, 7(4). School of Environment and Natural Resources, Ohio State University Extension, Columbus, OH.
- Schrouder, J. D., C. M. Smith, P. J. Ruzs, R. J. White, D. L. Garling, and G. R. Dudderar. 1994. Managing Michigan ponds for sport fishing, third edition: Extension Bulletin E-1554. Michigan State University Extension, E. Lansing, MI.

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