

## **Arkansas Pond Bulletin**

**September 2023**

### **Quick Hit: Fall Forage Stocking**

Fall is a good time to stock forage species in ponds and lakes. One reason for the timing is cooling temperatures. Fish have a more difficult time enduring the stress of handling, transportation and stocking into an unfamiliar environment during summer for the heat and often-associated lower dissolved oxygen availability. We can relate; it is more difficult for us to perform strenuous work and recover when it is very hot outside versus cool too. The other reason for the timing is providing a boost of energy to our sportfish to help carry them through the upcoming winter. Fish are generally cold-blooded, meaning that their metabolism and activity are tied to water temperature. Most southern, warm-water fish become very lethargic to inactive during the coldest parts of winter. While these fish do still eat during winter, they do it far less frequently and rely more heavily on energy stored in fat built-up during the fall. Providing more food (forage fish) to eat in fall helps our predators (sportfish) store more fat thus increasing their chance of surviving winter and entering spring strong and ready to begin the spawning process.

One of the best overall species for forage stocking is bluegill. They are readily available and offered in sizes suitable for largemouth bass, catfish, and even large crappie to gobble up. Bluegill that survive the fall feeding frenzy and make it to the following spring will often start contributing to the spawning stock of bluegill already in the system, helping to maintain baseline forage availability. Bluegill stocking rates can range from 500 to 2,500 fish per acre for newly-built or renovated ponds depending on several factors. Generally, 250 to 750 fish per acre in the 2-4 inch size class is great for supplemental stocking into a mature pond for the purpose of providing extra predator food before the cold sets in.

The next best option for forage stocking is golden shiner. These are small to intermediate-size forage fish that are great for small to intermediate sized largemouth bass and catfish, and small to large crappie. Golden shiner have little chance against hungry predators, especially if there is no dense cover for them to hide in, so they usually do not persist for more than a few months in mature ponds. The whole point of their stocking is to feed your predators, which is achieved, but their need for annual restocking in most situations is a shortcoming. Stocking rates from 10 to 50, or more, pounds of shiners per acre are appropriate.

Fathead minnows are another forage fish readily available in Arkansas but their utility as a supplemental forage is limited. They are smaller than golden shiner, which means a predator must pursue and eat more of them (burning energy to do so each time) to achieve the same benefit as eating a single larger forage item. Like golden shiner,

fathead minnows are often eliminated from the pond within a few months requiring annual restocking to maintain their presence. Stocking rates from 10 to 50, or more, pounds of fathead minnows can be beneficial for small to intermediate-sized sportfish.

Threadfin shad can contribute significantly to the growth of largemouth bass, catfish and crappie in fertile ponds. However, threadfin are cold-sensitive and often experience heavy mortalities during winter especially in shallow ponds. It is usually best to only stock threadfin shad in the spring to maximize their benefit. Unfortunately, availability of this species is severely limited in Arkansas so the cost to deliver them from out of state sources may be excessive for your budget. Threadfin are sold by the truck-load which includes 5,000-10,000 fish depending on the size of the fish in the load. Most suppliers recommend 1 load for every 10 surface acres of water.

Gizzard shad are similar in appearance but can get far larger in size compared to threadfin shad. Gizzard shad are cold-tolerant so they tend to overwinter far better than threadfin shad. However, gizzard shad should only be stocked in trophy bass ponds that already have a healthy population of large bass at least 16 to 18 inches in length. Otherwise, gizzard shad can outgrow the mouth size of the bass and begin stock-piling at sizes too large for any of your sportfish to eat. If that happens, you have a serious problem that likely will require professional help to correct. As with threadfin shad, gizzard shad availability is limited to out-of-state vendors.

An important consideration into what species, or size, to stock is what size fish you are trying to feed. Fathead minnow and golden shiner work well for boosting condition of 0.5 to about 2 pound largemouth bass, catfish and crappie but they do little good for larger fish. Larger bass and catfish will require larger bluegill, or even gizzard shad in very specific situations, to push growth of the largest fish in your pond. As always, harvest and culling of sportfish is required to enhance growth and maximum size even in ponds with regular supplemental forage stocking.

All fish stocked into Arkansas waters, both public and private, must come from producers certified by the Arkansas Game and Fish Commission.

### **What to Watch Out for in September:**

Keep an eye out for bluegreen algae blooms through September. Cooling temperatures and increasing rainfall frequency will begin lessening the threat of toxic blooms but until ponds start refilling the potential for problems will remain. Aquatic weeds are fully mature and more resistant to herbicides. Many weeds will begin degrading and shifting to dormancy soon so the utility of most herbicide applications will continue to decline the closer we are to winter. Contact herbicide applications during late summer must be carefully carried out as killing too much plant mass at one time will cause oxygen

depletion and can kill fish. The general rule of thumb is treat no more than 1/3 of the pond at one time, wait two weeks before treating the next section, and so on until the entire pond is treated. In severe infestations, 1/4 sections at a time may be needed. The MP556, SRAC0360, and MP44 contain information on selecting herbicides. The easiest plant ID tool available now is Texas A&M's Aquaplant "Identify a Plant" directory <https://aquaplant.tamu.edu/>. The MP556 and MP360 contain photos of many of the common problematic weeds in Arkansas. You can also text or email me photos of the plant you're dealing with and I can advise. Please report suspected non-native aquatic plants to myself or the Arkansas Game and Fish Commission Aquatic Nuisance Species Program Coordinator, Matt Horton [Matthew.Horton@agfc.ar.gov](mailto:Matthew.Horton@agfc.ar.gov) 877-470-3309 ext. 1206. We will work with the client to develop a containment and treatment plan.

Low dissolved oxygen fish kills are possible this time of year, though true "turnovers" are still several weeks away for most ponds. Environmental conditions to watch out for are 2-3 days of high heat, no wind, and heavy cloud cover. By the 3<sup>rd</sup> and 4<sup>th</sup> straight day, ponds with dense algae blooms and weed infestations will start losing fish from oxygen depletion. The largest fish of each species will be the first to go, often grass carp followed by the largest bluegills, crappie, largemouth bass, and then catfish. Once a low-dissolved oxygen kill has begun, the only thing that can provide relief is aeration or flushing the pond with fresh oxygenated well water. Unless the pond owner already has sufficiently-sized emergency aeration or pumping equipment in place for this possibility, they will likely take too long to acquire it after the fact to make much difference. Encourage clients who have invested greatly in their fisheries (trophy bass and crappie ponds, for example) to consider installing aeration systems to prevent this from occurring in the first place. All we can do in most cases is assess the extent of the kill and recommend a restocking plan.

### **Pond Management Tasks for September:**

Pond renovations and construction should be completed. Rainfall frequency is soon to increase so new, renovated, and depleted ponds will begin filling. Fertilization and feeding programs should be underway. Aquatic dye duration for weed/algae control will start to decline as rainfall increases. Continue herbicide applications for troublesome weeds. Fish stocking is still somewhat risky this month due to the persistent elevated temperatures but we are trending towards stocking being safe to resume in October. Encourage clients to harvest largemouth bass (10-15 lbs/acre/yr for normal ponds, 25-35 lbs/acre/yr for bass-crowded or highly productive ponds). Harvest bluegill less than about 7 inches in length up to about 25 lbs/acre/yr. Aggressive harvest of all crappie caught, especially from ponds smaller than about 25 acres is encouraged. Continue mowing grass on dams and levees to keep brush and saplings from developing. Periodically inspect drains and spillways to clear debris and clogs. Continue daily

operation of aerators. For diffused aeration systems that have not yet been activated, follow the startup schedule of: Day 1, run 30 minutes then turn it off the rest of the day. Day 2, run 1 hour. Day 3, run 2 hours. Day 4, run 4 hours. Continue doubling the run time each day until you are running 24 hrs/day and keep it on for the rest of the summer.

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