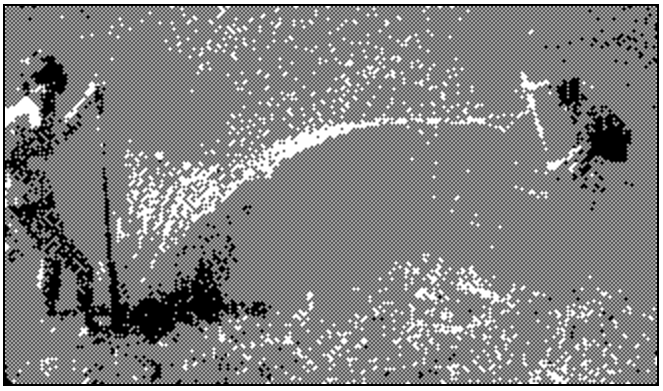
How to Assess the Fish in Your Farm Pond

By David Routledge, southeast region fisheries technician

Summer is just around the corner and I am sure many farm pond owners, if they haven't done so already, will be dusting off their fishing equipment and heading to their very own body of water for some angling action. Many of you will probably be wondering if you have a quality fishery in your pond or if some adjustments need to be made to improve the existing population.



Shoreline seining will help you determine the reproductive success of largemouth bass and bluegill in your pond. For best results, use a 20 x 4 foot minnow seine with one-quarter inch mesh, from June through September.

Yes, there are ways to evaluate the fisheries population in your farm pond and early summer is an excellent time to do so. There are two main methods to assess your pond's fish population. One is to seine the shoreline which would cool you off when the weather heats up, and the drier method would be to fish your pond and monitor what you catch.

Assessment Methods

Let's start with the shoreline seining technique, which will help you determine the reproductive success of largemouth bass and bluegill in your pond. Shoreline seining of your pond is best accomplished from June to September. For best results use a 20 X 4 foot minnow seine with one-quarter inch mesh. Several quadrant hauls should be made in different locations, while at the same time trying to avoid areas with excessive vegetation and brush. Once a haul has been made, you should record the numbers and lengths of all fish sampled. This method should also be supplemented by angler catch records. Your seine haul should contain several fry and fewer intermediate sized bluegill (two-three inches) and a few bass fingerlings (one-three inches).

Angling is the second method of assessing fish in your pond which sounds like great fun, but it also requires a lot of work on your part. This assessment technique provides information on adult species in your pond. You should fish your pond on a regular basis throughout the year with a variety of lures and baits such as bass lures, worms, crickets, doughbaits and crappie jigs. This will allow you to catch various sizes and types of fish.

For this method of assessing your pond to be effective, you should record the lengths and numbers of each species caught on a yearly basis. A yearly record of fish caught will provide a trend in the harvest make-up, which in turn will allow you to make sound management decisions. Also, if you have friends that frequently fish your pond, you should make sure they keep a record of all the fish they catch as well. You should also keep track of the time you fished so you can determine the catch rate of all species caught. For a fishing log to record your catch, refer to the 2001 summer issue of *Your Side of the Fence*, "Getting to Know Your Pond" by Brent Gordon on page 7. Past issues of *Your Side of the Fence* can be obtained at the Department web site http://www.wildlifedepartment.com. Go to publications, then Landowner Newsletter.

Interpreting Your Assessment

Now that you have completed the hard work, or should I say fun of assessing what is in your pond, it is time to interpret your findings. If you found an abundant rough fish population such as carp, bullheads, gar, etc. your best bet would be to renovate your pond by lowering the water level and applying a fish toxin called rotenone. This will kill out all the fish, then you can restock the pond with bluegill, largemouth bass and catfish. It is illegal to apply rotenone in Oklahoma bodies of water without ODWC supervision and approval, so make sure you contact your local ODWC personnel for advice if you go this route.

If you used the shoreline seining technique and found mainly bass, bluegill and catfish, use Table 1 to evaluate the population.

If angler harvest methods were used to evaluate the bass

TABLE ONE

SEINE CONTENTS	STATUS	RECOMMENDATION
- Young bass (<4 inches) - Many recently hatched bluegill (<2 inches)	Population balance	Continue assessment using angler harvest records
- Young bass (<4 inches) - No recently hatched bluegill	Bluegill absent or undesirable species competing with bluegills	Verify bluegill presence by angling
- No young bass - Many recently hatched bluegill (<2 inches)	Bluegill crowded or bass not present in pond	Verify bass presence by angling
- No young bass - No recently hatched bluegills - Undesirable species collected	Over population or absence of bluegills or undesirable fish species overpopulation	Verify bass and/or bluegill presence by angling

The drier method of sampling a farm pond is to use a rod and reel.

and bluegill populations in your pond, then recommendations can be made on abundance and size distribution of the two species and **P**ercentage **S**ize **D**istribution (PSD) values.

To maintain a balanced fish population, you should try to keep PSD values for bass and bluegill in the desired range and follow harvest recommendations in Table 2.

Other Important Pond Management Considerations

One mistake many people make which can have a detrimental effect on a pond's fish population is not harvesting any fish. It is very important to harvest fish out of your pond to keep it in good balance. A good rule of thumb is to harvest one pound of bass for every four to five pounds of bluegill harvested. Yes, you need to harvest both bass and bluegill.

Also, many pond owners think it would be desirable to have crappie in their pond. This is a mistake, since crappie are notorious for producing large year classes. If there are not sufficient numbers of bass to help control the crappie, then they can become overpopulated and stunted. The result could be a poor balance of all species in your pond.

Conclusion

By assessing your farm pond's fish population on a regular basis and applying sound management practices, you should enjoy years of quality fishing on your very own body of water. For more detailed information on managing your pond, I recommend reading the ODWC publication "Managing Pond Fisheries in Oklahoma". This can be obtained from all Wildlife Department installations for $3. You can also go to the Department web site http//www.wildlifedepartment.com/outstore.htm; print an order form and send it along with $3 to Oklahoma Department of Wildlife Conservation, C/O License section, P.O. Box 53465, Oklahoma City, OK 73105.

Much of the information obtained in this article came from "Managing Pond Fisheries in Oklahoma" and "Stocking and Management Recommendations For Texas Farm Ponds".

Listed below are two examples of how to figure PSD values for bass and bluegill in your pond

Bass PSD example

Your catch record shows 100 total bass caught with 45 being over 12 inches long.

$$\frac{\text{45 (Bass > 12 inches)}}{\text{100 (total bass)}} \times 100 = 45\%$$

Bluegill PSD example

Your catch record indicates 60 total bluegill caught with 30 being over 6 inches

$$\frac{\text{30 (Bluegill > 6 inches)}}{\text{60 (total bluegill)}} \times 100 = 50\%$$

TABLE TWO

CATCH COMPOSITION	ANGLING PSD %		HARVEST RECOMMENDATIONS
	BASS	BLUEGILL	
- Bass average 12" - 15" - Bluegill range from 3" -6" or larger	20 - 60	50 - 80	Balanced pond - release 12 " - 15 " bass
- Bass caught are 12 "or larger - Bluegill caught are less than 5"	20 - 60	less than 50	Bluegill reaching over-crowded conditions. Harvest more bluegill and release 12" - 15" bass
- Bass average 12" - 15 " - Bluegill caught are less than 5 "	greater than 60	less than 50	Bluegill overcrowded. Harvest more bluegill and release all bass.
- Bass easy to catch and most are less than 12 " - Bluegill range from 3 " to 6 " or larger	less than 20	50 - 80	Bass reaching over crowded conditions. Harvest more bass less than 12". Release 12" - 15" bass.
- Bass easy to catch and most are less than 12 " - Bluegill (6" plus) frequent	less than 20	greater than 80	Bass over crowded. Harvest more bass less than 12" and over 15". Release 12"-15" bass and all bluegill.
- Undesirable species caught (carp, bullhead, gar, etc.)			Consider renovation