WILDLIFE

Managing Warmwater Ponds no. 6.401

by K.J. Kehmeier [1]

Quick Facts...

Largemouth bass overharvest is the most common cause for loss of good fishing.

Creel cards are a good way to measure angling pressure, catch rate and harvest.

Adequate rates of reproduction, mortality and growth in warmwater ponds depend on self-sustaining or balanced populations.

Reproduction and mortality rates are hard to determine. A pond owner can determine how well the populations are growing by the size distribution of a good and not-so-good population.

Warmwater farm ponds are notorious for a short life span of good fishing. The most common cause for loss of good fishing is largemouth bass overharvest. In new or renovated Colorado ponds, restrict harvest of largemouth bass until they spawn twice, usually midsummer of the third year after stocking. However, catch-and-release fishing for bass and harvest of bluegill can be enjoyed as soon as they are large enough to interest anglers.

Creel Cards

One way to keep tabs on your pond and maintain good fishing is to require anglers to record their catch and harvest. A creel census yields valuable information on angling pressure, catch rate and harvest. Catch cards or voluntary creel census cards are a good method of keeping records and can be purchased from the Department of Fishery and Wildlife Biology, Colorado State University, Fort Collins, Colorado 80523-1474.

Fill out creel cards regardless of how long anglers fish or how much is caught. If the report is a group report, record the size of the group and total group fishing hours. Some effort will be needed to measure and record the lengths of all fish. Good fishing is maintained with cooperation among anglers.

The following is a suggestion for implementing a creel census. Drive a steel post in a conspicuous point at a major access to the pond. Bolt two mailboxes to a board mounted to a steel post. One mailbox contains pencils and blank creel cards and the other completed cards. Mount a water-resistant poster between the mailboxes informing the anglers of the creel census and any special fishing pond regulations. Attach a measuring board or yardstick to the steel post to measure fish. Bill Turner of the Missouri Department of Conservation designed a record-keeping box with a measuring board for holding creel information. Obtain plans by writing the Colorado State Department of Fishery and Wildlife Biology or by contacting the Missouri Department of Conservation.

Evaluation of Catch

Warmwater ponds depend on self-sustaining populations, often referred to as balanced populations, when they have adequate rates of reproduction, mortality and growth. Reproduction and mortality rates are difficult to determine. A pond owner can tell whether the populations are growing well by learning to recognize size distribution of good and not-so-good populations. When managing a pond for quality fishing and balance, the correct size distribution of largemouth bass is more critical than the size distribution of bluegill.

A decision must be made four years after stocking as to what type of fishing is more important — largemouth bass or panfishing. If catching big panfish is more important than large bass, release bass less than 15 inches. If

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Table 1: Recommended percentages of sizes of bluegill and largemouth bass caught by angling in ponds managed for large bluegill.

Species	Size (inches)	% of catch
Bluegill	3-6	25-35
	6-8	25-35
	8-10	30-40
	10	0-5
Largemouth bass	8-12	55-85
	12-15	20-40
	15	0-15

Table 2: Recommended percentages for sizes of bluegill and largemouth bass caught by angling in ponds managed for both largemouth bass and bluegill.

Species	Size (inches)	% of catch
Bluegill	3-6	50-60
	6-8	20-40
	8-10	0-10
Largemouth bass	8-12	30-60
	12-15	30-60
	15-20	10-30
	20	0-5

References

Colorado Warmwater Pond Handbook*, by J.R. Satterfield and S.A. Flickinger, Colorado State University, Fort Collins, CO. 80523. Free upon request.*

Fish Diary — It'll Help You Keep Tabs on Your Pond*, by Bill Turner, Missouri Conservationist 46 (2) 28-30.*

Managing Ponds for Good Fishing*, by R.O. Andersen, University of Missouri-Columbia Extension Division, Columbia, MO, 65211.*

Producing Fish and Wildlife from Kansas Ponds*, by D.W. Gabelhouse, R.L. Hager, and H.E. Klaassen, Kansas Fish and Game Commission, R.R. 2, Box 54-A, Pratt, Kansas 67124. Fee required.*

largemouth bass fishing and panfishing are equally important, manage largemouth bass with a 12- to 15-inch protected range. This means bass less than 12 inches and larger than 15 inches may be harvested, but largemouth bass from 12 to 15 inches should be returned to the water. For more information on interpreting harvest regulations and fish community assessment refer to the *Colorado Warmwater Handbook* free from Colorado State Department of Fishery and Wildlife Biology.

Once the type of fish management is decided and appropriate size regulations are in effect, data gathered from the creel cards will show whether or not things are working out the way they should. One of the most important statistics from a creel card is size distribution of the species caught. Add up all the fish, harvested and released, of the same species. Go back and add up all the fish of the species that were in a particular size group (for example, largemouth bass 8 to 12 inches). Calculate the percent of the total number that particular size group accounted for. Do the same for other size groups and other species. Percentages for each species will add up to 100. If one size group makes up a large percentage of the catch, other size group percentages will be low.

For ponds under panfish management, largemouth bass 8 to 12 inches should make up 55 percent to 85 percent of the catch, with bass of 12 to 15 inches being being 20 percent to 40 percent of the largemouth bass caught. Up to 15 percent of the largemouth bass caught will be large enough (15 inches) to be harvested. Bluegill 8 to 10 inches should make up 30 percent to 40 percent of the catch with 5 percent of the bluegills caught larger that 10 inches. Bluegill 3 to 6 inches and 6 to 8 inches should make up equal percentages of 25 percent to 35 percent of the bluegill catch (Table 1).

For ponds in which largemouth bass fishing and panfishing are equally important, percentages of catch differ from ponds producing large panfish. Bluegill of 3 to 6 inches should make up 50 percent to 60 percent and bluegill of 8 to 10 inches should comprise 0 to 10 percent of the bluegill catch. Largemouth bass 8 to 12 inches should range between 30 percent to 60 percent and largemouth bass 15 to 20 inches should comprise 10 percent to 30 percent of the largemouth bass catch. An occasional largemouth bass larger than 20 inches can be caught in the management strategy, but there should be no concern if none that big are caught. The protected range, 12 to 15 inches, should make up 30 percent to 60 percent of angler's catch of largemouth bass (Table 2).

Regardless of what type fishing is most important, catch per hour of angling for each species can be an indicator of fishing quality. Catch per hour is best utilized if compared on a year-to-year basis to monitor trends. To figure catch per hour, divide the total number of a species (such as bluegill) caught by the total hours spent fishing for that species. For example, if your creel cards show that 100 bluegill were caught with 25 hours of angling, the catch for bluegill per hour would be equal to four. Catch rates will vary between ponds and species and what is good quality fishing for one individual may not be quality fishing to another. As a general rule, if largemouth bass catch per hour is less than 0.5 fish per hour, something may be going wrong in the population. If bluegill fishing shows a catch below two fish per hour, bluegill numbers may be too low to maintain balance.

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