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# Managing warmwater ponds by fish caught

Kenneth J. Kehmeier<sup>1</sup>

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## Quick Facts

- Largemouth bass overharvest is the most common cause for loss of good fishing in warmwater ponds.
- Implementing creel cards is 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 populations or balanced populations.
- Reproduction and mortality rates are hard to determine but a pond owner can determine how well the populations are growing by the size distribution of a good and poor population.
- Catch per hour of angling for each species can be an indicator of fish quality.

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

The following is a suggestion for implementing a creel census. Drive a steel post in a conspicuous point and at a major access to the pond. Bolt two mailboxes to a board that is mounted to a steel post. One mailbox will contain 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. A measuring board or yardstick also will need to be attached to the steel post for fish measurements. Bill Turner of Missouri Department of Conservation has designed a record-keeping box with a measuring board for holding creel information. Plans can be obtained by writing the CSU department of fishery and wildlife biology or by contacting the Missouri Department of Conservation.

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, harvest of largemouth bass should be restricted until they have spawned twice, usually mid-summer of the third year following stocking. However, catch-and-release bass fishing and bluegill harvest can be enjoyed as soon as the fish are large enough to interest anglers.

## Creel Cards

One means of keeping tabs on a pond and maintaining good fishing is to require anglers to record their catch and harvest. Creek census will yield 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, Colo. 80523.

## 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 but a pond owner can determine whether the populations are growing well by learning to recognize size distribution of good and poor populations. When managing a pond for quality fishing and balance, the current size distribution of largemouth bass is more critical than the size of distribution of bluegill.

<sup>1</sup>Kenneth J. Kehmeier, CSU research associate, department of fishery and wildlife biology (10/85)

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To simplify technical terminology, trade names of products and equipment occasionally will be used. No endorsement of products named is intended nor is criticism implied of products not mentioned.

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, bass less than 15 inches should be released. If largemouth bass fishing and panfishing are equally important, largemouth bass should be managed 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 CSU department of fishery and wildlife biology.

Once the type of fish management is decided and appropriate size regulations are effective, data gathered from the creel cards will show whether things are working 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 that particular size group contributed. Do the same for other size groups and other species. Percentages for each species will add up to one hundred. 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 to 85 percent of the catch, with bass of 12 to 15 inches being 20 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 to 40 percent of the catch with 5 percent of the bluegills caught being larger than 10 inches. Bluegill 3 to 6 inches and 6 to 8 inches should make up equal percentages of 25 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, 6 to 8 inches and 8 to 12 inches should make up 50 to 60 percent and 0 to 10 percent of the bluegill catch. Largemouth bass 8 to 12 inches should range between 30 to 60 percent and largemouth bass 15 to 20 inches should comprise 10 to 30 percent of the largemouth bass catch. As occasional largemouth bass larger than 20 inches could be caught in the management strategy, but there should be no concern if one is not caught. The protected range, 12 to 15 inches, should make up 30 to 60 percent of anglers' 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 wrong with the population. If bluegill fishing shows a catch below two fish per hour, bluegill numbers may be too low to maintain balance.

## 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*, Vol. 46, No. 24; 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. 2, Box 54-A, Pratt, KS 67124. Fee required.

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

	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.**

	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