

Delaware Division of Fish and Wildlife
Seining to Determine Fish Population Status in a Small Pond

A seine is a small rectangular net pulled through shallow water to collect fish and large invertebrates. A two-person team, with one at each end of the seine, pulls the net through the water, usually parallel to shore. A pole at each end, called a brail, may be used to assist in keeping the net spread out vertically and to provide a place for the seiners to hold the net. The net extends horizontally from the surface of the water to the bottom of the pond. Floats are tied along the top of the net to make sure it stays on the surface and there are weights along the bottom to keep it on the bottom. When seining, the person on the deeper end of the seine should stay a little ahead or forward of the person in the shallow end so that fish chased out from shore stay in the net (usually the net forms a half-moon shape during hauling).

A chart was developed by H.S. Swingle¹ of Auburn University to determine balance of Largemouth Bass and Bluegill in small ponds (see below). Two or three seine hauls, often easiest across a corner of the pond, should be conducted to obtain sufficient data to determine balance from the Swingle chart. The results of your findings will indicate what if anything should be done to improve the fish population. It is optimum to seine once a month from June-September to better assess the population. If this is not feasible, a seine sample taken in late June or early July should yield some useful information.

Swingle Determination of Fish Population Balance

Pull a seine at least 35 feet through one end or corner of the pond. A net from 20 to 35 feet long will be adequate. Examine the fish collected and chose the most appropriate description below.

I. No young largemouth bass present:

A. Many newly-hatched bluegills, no or very few intermediate (3 to 5 inch) bluegills.

Conclusion: Bass over-crowded, temporary balance.

B. No recent hatch of bluegills, many intermediate bluegills.

Conclusion: Unbalanced, bluegills over-crowded, insufficient bass.

C. Same as above, plus many tadpoles and/or minnows and/or crayfish.

Conclusion: Unbalanced, no bass or extremely few bass.

D. No recent hatch of bluegills, few intermediate bluegills.

Conclusion: Unbalanced, due to crowding by other species, e.g. white perch, crappie or bullheads.

E. No recent hatch of bluegills, no intermediates.

Conclusion: Water too salty, pH too low, or heavily laden with silt.

II. Young largemouth bass present:

A. Many newly-hatched bluegills and few intermediate bluegill present.

¹ Swingle, H. S. 1956. Appraisal of methods of fish population study . Part IV. Determination of balance in farm fish ponds. Trans. N. Am. Wildlife. Conf. 21:298.322.

Conclusion: Pond in balance.

B. Many newly-hatched bluegills and very few or no intermediate bluegill.

Conclusion: Temporary balance, but bass over-crowded.

C. No recent hatch of bluegills:

a. Few or no intermediate bluegills.

Conclusion: Bluegill absent from pond or unable to reproduce due to salinity or pH problems; occasionally due to over-crowding by other species such as white perch or crappie.

b. Many intermediate bluegills.

Conclusion: Unbalanced, bluegills over-crowded, insufficient bass, progressing to situation I-B.



Use a seine to collect fish in the nearshore area of a pond



Make sure the net is brought ashore very carefully so there are no gaps at the bottom that would allow your catch to escape

