

Experimental Protocol: Fall Fyke Netting – Crappie

This experimental protocol in Wisconsin's Upper Chippewa Basin is based in large part upon a similar protocol developed in Missouri and now commonly used for crappie population assessment in impoundments throughout the lower Midwest and Southeast.

Reference: Colvin, Michael A. and Fred W. Vasey. 1986. A Method of Qualitatively Assessing White Crappie Populations in Missouri Reservoirs. Pages 79-85 in G. E. Hall and M. J. Van Den Avyle, editors. Reservoir Fisheries Management: Strategies for the 80's. Reservoir Committee, Southern Division American Fisheries Society, Bethesda, MD.

The major alteration of this protocol for experimental purposes in Wisconsin is in the fyke net specifications. Because we lack the funding to purchase numerous 3x5 foot framed, 0.5-inch bar mesh trap nets used in Missouri, we are experimenting with a standardized version of the fyke nets typically used in Wisconsin for purposes of sampling walleye and muskellunge (4x6 foot frames with 0.75-inch bar mesh -- see attached file).

Fyke nets with variable-length leads are set off main lake points or prominences (never straight shorelines or embayments) in the fall with the pots positioned in 7-10 feet of water (6-12 foot depths are acceptable, but CPUE typically declines with shallower or deeper sets). Capture efficiency and population assessment confidence are lower in Missouri impoundments with steeply sloping littoral zones and crystal clear water; so initial testing in the Upper Chippewa Basin has been on tannin-stained flowages or meso-eutrophic lakes that possess gradual slopes and reduced visibility (Secchi 2-6 feet).

Sampling is done in October at surface water temperatures of 55 to 68 F because experience has shown that crappie of all sizes can be captured then, although the gear is biased (in a manageable way) against young fish. Crappies generally are fully vulnerable to the gear at age 2+ (after 3 growing seasons). Missouri biologists have documented that October fyke net CPE of harvestable-size crappie is related to creel-estimated angler harvest the following year in a statistically significant way. Upper Chippewa Basin biologists have already learned that 0.75-inch bar mesh fyke nets do not sample black crappie less than 3 inches long even when abundant; so we will not be able to use YOY CPE as an index of reproduction using these nets.

Large reservoirs in Missouri (similar in size to the Chippewa Flowage) typically are sampled with 20 trap nets fished until 1,500 age-1-and-older crappie are captured, or for a maximum of 4 net-nights. Scale samples are collected from 10 fish per 10-mm length group for research purposes. However, Missouri biologists often set 8-12 nets on smaller lakes (<5,000 acres) for only a night or two of effort and feel that they obtain good information for crappie population assessments. Often in such cases, only 5 scale samples are collected per half-inch group, which seems sufficient to distinguish year classes and develop age-frequency distributions by using age-length keys. In the Upper Chippewa Basin, we are setting 8 fyke nets per lake, generally for two net-nights, for a total of 16 net-nights of effort per fall survey. On a water as large as the 15,300-acre

Chippewa Flowage, we are sampling the east side (stained and more riverine) in even years and the west side (clearer and more lacustrine) in odd years.