

*Michigan Department of Natural Resources
Fisheries Research Report No. 2044, 1999*

**Estimating Angling Effort and Catch from Michigan Roving
and Access Site Angler Survey Data**

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Abstract.—Michigan Department of Natural Resources, Fisheries Division uses roving and access site angler survey methods to collect effort and catch information from inland and Great Lakes fisheries. These surveys follow a stratified design using structured sampling within strata and data reflect angling characteristics for specific locations during specific calendar and daily periods. We present equations used for estimating angling effort, harvest by species, and catch-and-release by species from these data. Variance equations for each given estimator are also provided. Equations given provide estimates per day or over multiple-days within a time period and considerations for selecting each are presented. For each type, per day or multiple-day, equations for using access site interviews (completed-fishing trip) or roving interviews (incompleted-fishing trip) in conjunction with instantaneous or interval counting techniques are given. Methods for estimating targeted catch and targeted effort are also discussed.

Presentation of these equations has three purposes: first, to promote consistency in angler survey techniques; second, to compile existing equations which have not previously been reported and; third, to reflect current methodology. These purposes all promote comparability and accuracy of Michigan angler surveys.

Equations used in previous years are also presented. Compilation of these equations provides historical documentation and preservation of methodologies used prior to 1998.