Introduction

The Michigan Department of Natural Resources (DNR), Fisheries Division surveyed fish populations and angler catch and effort at Lake Charlevoix, Charlevoix County, Michigan from April 2006 through March 2007. This work was part of the Large Lakes Program, which is the assessment and monitoring program for fish communities and fisheries in Michigan’s largest inland lakes (Clark et al. 2004). The Large Lakes Program has three primary objectives. The first objective is to produce indices of abundance and estimates of annual harvest and fishing effort for walleye (scientific names for all fish species in the report are found in Appendix), northern pike, smallmouth bass, and muskellunge. The second objective is to produce growth and mortality statistics to evaluate the effects of fishing on these species. The third objective is to evaluate the suitability of various statistical estimators for use in large lakes. For example, comparisons were made among three types of abundance and three types of exploitation rate estimators in this survey of Lake Charlevoix. The Large Lakes Program will maintain consistent sampling methods over lakes and time, which will allow the evaluation of differences in fish population and harvest statistics among lakes or changes within a lake over time. Lake Charlevoix was the 17th lake surveyed under the protocols of the program. However, since 20 lakes had been surveyed at the time the report was written, statistics from all surveyed lakes were used for comparison. The sample size for these types of comparisons varies throughout the report since some statistics could not be estimated for a lake and/or species.