STUDY PERFORMANCE REPORT

State: Michigan **Project No.:** F-81-R-16

Study No.: 230548 **Title:** A statewide survey of Michigan's licensed anglers

Period Covered: October 1, 2014 to September 30, 2015

Study Objective: The principal objective of this research is to develop and implement an overall strategy for collecting survey data on angler behavior. Specific objectives are to (1) Determine how often anglers fish, and the general spatial distribution of fishing trips; (2) Determine indicators of catch for sport fish species; and (3) To the extent possible, infer important ecological and economic considerations shaping the patterns of angling behavior. The project will result in a database on angler behavior and will lead to query tools to support Fisheries Division decision making. The project will also provide data for economic analyses of angler's recreational behaviors. Another project outcome will be a mechanism and instruments for cost effective, accurate, and reliable angler data collection through a combination of mail and web surveys.

Summary: Progress has continued to focus on the implementation and management of the angler survey. Data has been collected this reporting period on the fishing activities and locations for about 3,000 fishing trips. Survey response rates had averaged over 45% over the course of the project but have declined some in the past two years and were about 42% in 2014, consistent with nationwide trends in survey response rates (National Research Council 2013). Data analyses to date have developed a general profile of the state's anglers, developed profiles of specific angler types and behaviors to meet special management needs, examined the cost-effectiveness of alternative means of implementing the survey, and modeled economic values and site choices of Great Lakes anglers and inland river anglers. Further analyses underway include, among other things, a focus on the trip-level data and economic modeling of angler site choices at inland lakes.

Findings: Jobs 7 and 8 were scheduled for 2014-15. During 2015-16, work continued on jobs 1, 2, and 6 as well, and progress is reported below.

Job 1. Conduct survey.–Monthly survey waves were conducted as planned with about 500 anglers surveyed each month.

Job 2. Manage data.–This job entails data entry and management. Data is being managed in a relational database structure for which queries are configured and being refined for efficient long-run use.

Job 6. Write manuscripts.–Manuscripts were developed for angler segments using commercially-available market segments data for lake angler segments, economic models of inland lake fishing, and an analysis of the effect of VHS regulations on angler site choices. These manuscripts are all undergoing revisions for submission to journals.

Job 7. Publish manuscripts.–Two publications are attached: a manuscript that was published in the North American Journal of Fisheries Management (Esselman et al, 2015), and one published in Water Resources Research (Melstrom et al, 2015), which connects the fish abundances of Esselman et al (2015) to economic values.

Esselman, P., R. Stevenson, F. Lupi, C. Riseng, and M. Wiley. 2015. Landscape prediction and mapping of game fish biomass, an ecosystem service of Michigan rivers. North American Journal of Fisheries Management 35:302-320.

Melstrom, R., F. Lupi, P. Esselman, and R. J. Stevenson. 2015. Valuing recreational fishing quality at rivers and streams. Water Resources Research 51:140–150.

Job 8. Write final report.–Due to the decision to renew the study for 2015-16, this annual performance report was completed instead. Additionally, information was shared with Fisheries Division personnel at meetings.

References:

National Research Council. 2013. Nonresponse in social science surveys. R. Tourangeau, and T. Plewes, editors. Panel on a research agenda for the future of social science data collection, Washington D.C., National Academies Press.

Prepared by: Frank Lupi
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