STUDY PERFORMANCE REPORT

State: Michigan **Project No.:** F-81-R-8

Study No.: 230737 **Title:** Status and trends of fish populations and community structure in Michigan streams

Period Covered: October 1, 2006 to September 30, 2007

Study Objectives: The objectives of this study are to:

1. Characterize fish community structure and the abundance, presence, and distribution of fish populations in a variety of stream types across the state.
2. Quantify the baseline level of variation in fish population abundance and community structure in a variety of stream types for use in interpreting individual field samples.
3. Describe long-term trends in fish community structure and fish population abundance in valuable trout and smallmouth bass streams and representative small coldwater streams across the state.
4. Track changes in survival and growth of salmonids and smallmouth bass over time.
5. Examine the relation between temporal changes in fish population size and structure and instream habitat.
6. Identify appropriate spatial scales for describing regional trends (if any exist) in fish community structure and fish population abundance.
7. Compare temporal patterns in resident salmonid abundance, growth, and recruitment among and between land-locked and potamodromous coldwater streams.
8. Oversee continued implementation, coordination, and maintenance of the Stream Status and Trends Program.

Summary: The Fisheries Division of the Michigan Department of Natural Resources (MDNR) initiated the Statewide Status and Trends Program (SSTP) during the spring of 2002. The division-wide SSTP uses standardized sampling methods in an effort to collect and evaluate data from a state-wide perspective. These data include fisheries information from electrofishing, habitat measurements, and water quality sampling that will be used to monitor statewide status and trends of streams as well as to evaluate stocking and other management activities in streams. In 2006-07, we continued to coordinate fish and habitat surveys, worked with other division personnel to improve the central database used to store all SSTP data, and explored opportunities for collaboration with other agencies. These efforts will ensure that the SSTP progresses steadily into the future.

Findings: Jobs 2, 3, 4, and 9 were scheduled for 2006-07, and progress is reported below.

Job 2. Title: Coordinate fish and habitat surveys.–We continued to work with field personnel and provided guidance on the completion of fixed and random fish and habitat surveys scheduled for the 2006-2007 field season. A total of 53 random sites and 32 fixed sites were scheduled for surveys. We do not know how many of these surveys were completed since fieldwork was still being conducted when this report was written.

We also traveled the state and met with personnel from all 8 Fisheries Management Units to discuss progress of the Stream Status and Trends Program, respond to questions regarding fish and habitat surveys, and to show and receive feedback on preliminary data summaries and analysis. This effort greatly improved communication among field personnel responsible for completing surveys and research personnel responsible for data summarization and analysis, and will ensure that future products from the program are useful to fisheries managers.

Job 3. Title: Work to upgrade the capabilities of the FCS.–We continued to work with administrators of Fisheries Division's central fish database, the Fish Collection System (FCS), to identify improvements and upgrade its data storage and retrieval capabilities. We also continued to refine a Microsoft Access database developed to automatically query fish community and habitat data from the FCS. These improvements will assist in retrieval and summarization of data for future analyses.

Job 4. Title: Explore opportunities for collaboration with other agencies.–We have continued to explore opportunities for collaboration with other agencies. In particular, we have worked with Dr. Daniel Hayes at Michigan State University to discuss potential analyses of data collected from the SSTP and the Michigan Department of Information Technology to provide web-based summaries of SSTP data for fisheries managers and eventually the public.

Job 9. Title: Write annual performance report.–This progress report was prepared.

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