



# MICHIGAN

OFFICE OF THE AUDITOR GENERAL

## AUDIT REPORT



THOMAS H. MCTAVISH, C.P.A.  
AUDITOR GENERAL

“...The auditor general shall conduct post audits of financial transactions and accounts of the state and of all branches, departments, offices, boards, commissions, agencies, authorities and institutions of the state established by this constitution or by law, and performance post audits thereof.”

– Article IV, Section 53 of the Michigan Constitution

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Michigan  
Office of the Auditor General  
**REPORT SUMMARY**

*Performance Audit*

Report Number:  
75-150-04

*Fisheries Division*

Released:  
August 2006

*Department of Natural Resources*

*The Fisheries Division, Department of Natural Resources, is responsible for fisheries management in the State. The mission of the Division is to protect and enhance the public trust in populations and habitats of fish and other forms of aquatic life and aquatic habitat and to promote optimum use of these resources for the benefit of the people of Michigan.*

**Audit Objective:**

To assess the effectiveness of the Fisheries Division's efforts to ensure that fish released into Michigan water bodies are disease free.

**Audit Conclusion:**

We concluded that the Fisheries Division was effective in its efforts to ensure that fish released into Michigan water bodies are disease free. However, we noted a reportable condition related to disease testing of non-salmonid fish species (Finding 1).

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**Audit Objective:**

To assess the effectiveness of the Fisheries Division's efforts to evaluate its success in meeting its mission, goals, and objectives.

**Audit Conclusion:**

We concluded that the Fisheries Division was moderately effective in its efforts to evaluate its success in meeting its mission, goals, and objectives. We noted reportable conditions related to implementing

continuous quality improvement processes and identifying and evaluating angler preferences (Findings 2 and 3).

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**Audit Objective:**

To evaluate the effectiveness of the Fisheries Division's policies and procedures for minimizing fish loss at State-managed fish hatcheries.

**Audit Conclusion:**

We concluded that the Fisheries Division's policies and procedures for minimizing fish loss at State-managed fish hatcheries were effective. Our report does not include any reportable conditions related to this objective.

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**Agency Response:**

Our audit report includes 3 findings and 3 corresponding recommendations. The Division's preliminary response indicates that it agrees with 2 recommendations and partially agrees with 1 recommendation.

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August 22, 2006

Mr. Keith J. Charters, Chair  
Natural Resources Commission  
and  
Ms. Rebecca A. Humphries, Director  
Department of Natural Resources  
Stevens T. Mason Building  
Lansing, Michigan

Dear Mr. Charters and Ms. Humphries:

This is our report on the performance audit of the Fisheries Division, Department of Natural Resources.

This report contains our report summary; description of agency; audit objectives, scope, and methodology and agency responses; comments, findings, recommendations, and agency preliminary responses; and a glossary of acronyms and terms.

Our comments, findings, and recommendations are organized by audit objective. The agency preliminary responses were taken from the agency's responses subsequent to our audit fieldwork. The *Michigan Compiled Laws* and administrative procedures require that the audited agency develop a formal response within 60 days after release of the audit report.

We appreciate the courtesy and cooperation extended to us during this audit.

AUDITOR GENERAL



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## Description of Agency

The Fisheries Division, Department of Natural Resources (DNR), is responsible for fisheries management in the State. The mission\* of the Division is to protect and enhance the public trust in populations and habitats of fish and other forms of aquatic life and aquatic habitat and to promote optimum use of these resources for the benefit of the people of Michigan.

The State is divided into four watershed basin areas (Lake Huron, Lake Superior, Lake Erie, and Lake Michigan), with the basin areas further subdivided into eight management units. The Division manages Michigan water bodies by implementing watershed-based management strategies with each watershed viewed as a separate ecosystem. In addition, the Division developed a strategic plan to guide its efforts toward managing Michigan's fisheries.

The Division is composed of four sections: Research, Field Operations, Hatcheries, and Program Support. There are six research facilities that provide information, models, and advice for science-based management of Michigan's fishery resources. There are eight field operations offices that perform various activities to assist the management units, fish hatcheries, and the public. There are six fish hatcheries and one fish health laboratory. During fiscal year 2002-03, the six hatcheries stocked approximately 21 million fish in the Great Lakes and 14 million fish in inland lakes and streams. Program Support provides divisionwide planning and resources to ensure efficient Division operations and accountability to the public.

The Division pursues its mission and goals\* through five strategic programs: Recreational Fisheries Program, Fisheries Resources Program, Commercial Fisheries and Native American Fisheries Program, Fish Production Program, and Division Support Program. The Division fulfills its responsibilities through research of the State's lakes, rivers, and streams to understand the habitat of the fisheries resources.

The Division had operating appropriations of \$24,322,400 for fiscal year 2002-03 and 184 full-time and 56 seasonal employees as of September 30, 2003. The Division is primarily funded from fishing license fees collected in the Game and Fish Protection Fund (\$17,396,500) with additional funding from federal grants (\$6,699,400) and miscellaneous sources (\$226,500).

\* See glossary at end of report for definition.



## Audit Objectives, Scope, and Methodology and Agency Responses

### Audit Objectives

Our performance audit\* of the Fisheries Division, Department of Natural Resources (DNR), had the following objectives:

1. To assess the effectiveness\* of the Fisheries Division's efforts to ensure that fish released into Michigan water bodies are disease free.
2. To assess the effectiveness of the Fisheries Division's efforts to evaluate its success in meeting its mission, goals, and objectives\*.
3. To evaluate the effectiveness of the Fisheries Division's policies and procedures for minimizing fish loss at State-managed fish hatcheries.

### Audit Scope

Our audit scope was to examine the program and other records of the Fisheries Division. Our audit was conducted in accordance with *Government Auditing Standards* issued by the Comptroller General of the United States and, accordingly, included such tests of the records and such other auditing procedures as we considered necessary in the circumstances.

### Audit Methodology

We performed our initial audit procedures from March through September 2004. We performed additional audit procedures from January through March 2005, primarily in response to new information provided by DNR. Our audit procedures included examination of the program and other records primarily for the period October 1, 2001 through March 31, 2004.

We conducted a preliminary review of the Division's operations to gain an understanding of its activities for fisheries management to plan our audit. We interviewed Division staff and reviewed applicable statutes, laws, appropriations acts, rules, policies, and procedures.

\* See glossary at end of report for definition.

We visited 1 research facility, 2 field operations offices, and 4 fish hatcheries to gain an understanding of, observe, and analyze their operations. We analyzed the Division's fish health inspection reports, fish stocking records, disease testing guidance, strategic plan, work plans, minutes of management meetings and public meetings, market surveys, operations manuals, activity logs, and alarm reports.

### Agency Responses

Our audit report includes 3 findings and 3 corresponding recommendations. The Division's preliminary response indicates that it agrees with 2 recommendations and partially agrees with 1 recommendation.

The agency preliminary response that follows each recommendation in our report was taken from the agency's written comments and oral discussion subsequent to our audit fieldwork. Section 18.1462 of the *Michigan Compiled Laws* and Department of Management and Budget Administrative Guide procedure 1280.02 require DNR to develop a formal response to our audit findings and recommendations within 60 days after release of the audit report.

COMMENTS, FINDINGS, RECOMMENDATIONS,  
AND AGENCY PRELIMINARY RESPONSES

## RELEASE OF DISEASE-FREE FISH

### COMMENT

**Background:** The Division stocked over 34.1 million non-salmonid fish\* and 33.4 million salmonid fish\* in Michigan water bodies from October 2001 until March 2004. The non-salmonid species produced by the Division include northern pike, muskellunge, walleye, bass, channel catfish, lake sturgeon, and redear sunfish. The salmonid species produced by the Division consist of fish of the salmon family, including brook trout, lake trout, rainbow trout, brown trout, steelhead (a variety of rainbow trout), splake, Chinook and coho salmon, and whitefish. The Division produced nearly all of the fish it stocked, with only a small number stocked through transfers of wild fish from water body to water body (typically largemouth and smallmouth bass, yellow perch, and black crappie) or transfers of fish from other states.

**Audit Objective:** To assess the effectiveness of the Fisheries Division's efforts to ensure that fish released into Michigan water bodies are disease free.

**Conclusion:** We concluded that the Fisheries Division was effective in its efforts to ensure that fish released into Michigan water bodies are disease free. However, we noted a reportable condition\* related to disease testing of non-salmonid fish species (Finding 1).

### FINDING

1. Testing Non-Salmonid Fish Species

The Fisheries Division performed only limited disease testing on non-salmonid fish species prior to stocking them in Michigan water bodies. As a result, the Division could not ensure that the non-salmonid fish that it stocked were free of disease.

During our audit period, the Division performed disease testing on samples from lots of salmonid fish. However, the Division did not perform disease testing on samples from lots of non-salmonid fish because of a lack of policy direction, testing criteria, and resources.

\* See glossary at end of report for definition.

Although the Division's strategic plan called for testing from all lots of fish to be stocked in Michigan waters, the Division stated that the strategic plan was referring to testing of the salmonid species, for which there were clear testing policies and protocols. The Division stated that very little was known about non-salmonid fish diseases, and testing policies and protocols did not exist for non-salmonid fish species.

However, the Division informed us that it took steps to reduce disease occurrences in non-salmonid fish. For example, the Division stated that it established systemwide procedures to reduce or eliminate pathogens for both salmonid and non-salmonid fish and established a policy for testing non-salmonid fish transferred from water body to water body. After we brought this finding to management's attention, the Division informed us that, beginning in June 2004, it performed fish health inspections of channel catfish transferred to Michigan from other states and fish health testing of walleye reared at a Michigan hatchery. The Division also informed us that Michigan is the first state in the Great Lakes region to initiate testing of non-salmonid fish species prior to stocking.

### **RECOMMENDATION**

We recommend that the Fisheries Division expand disease testing on non-salmonid fish species prior to stocking them in Michigan water bodies.

### **AGENCY PRELIMINARY RESPONSE**

The Fisheries Division agrees and informed us that, although the Division's strategic plan did identify that fish health inspections should be conducted on all fish reared in the State's fish hatchery system, the actual intent was to ensure that all salmonid (not non-salmonid) fish species were tested prior to stocking.

The Division informed us that, since large-scale stocking of non-salmonid fish species is a relatively recent development in northern states, many areas of non-salmonid fish culture are still in the development stage, including fish health. The Division said no criteria, policies, or target pathogens had been identified for testing of non-salmonid species prior to the Division's strategic plan being written or before this audit was undertaken.

The Division informed us that it has moved forward and began testing some non-salmonid fish species reared in the State's fish hatchery system for specific

pathogens starting in 2004, and also informed us that it is utilizing information being generated to support revisions to the Great Lakes Fish Health Model Program.

## **SUCCESS IN MEETING MISSION, GOALS, AND OBJECTIVES**

### **COMMENT**

**Audit Objective:** To assess the effectiveness of the Fisheries Division's efforts to evaluate its success in meeting its mission, goals, and objectives.

**Conclusion:** We concluded that the Fisheries Division was moderately effective in its efforts to evaluate its success in meeting its mission, goals, and objectives. We noted reportable conditions related to implementing continuous quality improvement\* (CQI) processes and identifying and evaluating angler preferences (Findings 2 and 3).

### **FINDING**

#### **2. Implementing CQI Processes**

The Fisheries Division had not fully implemented CQI processes to assess the effectiveness and efficiency\* of the fisheries programs. As a result, the Division could not evaluate whether it was performing the most effective and efficient activities for achieving its goals.

The State Legislature and the Governor have required, in various appropriations acts and in Executive Directive No. 1996-1, that State programs use quality improvement processes to manage the use of limited State resources. Also, Executive Directive No. 2001-3, which rescinded Executive Directive No. 1996-1 effective June 8, 2001, had a goal to increase efforts toward continuous improvement and ensure the implementation of quality and customer service management techniques.

A CQI process should include: performance measures\* for measuring outputs\* and outcomes\*; performance standards\* or goals that describe the desired level of outcomes based on management expectations, peer group performance, and/or

\* See glossary at end of report for definition.

historical data; a performance measurement system\* to gather actual output and outcome data; a comparison of the actual data with desired outputs and outcomes; a reporting of the comparison results to management; and proposals of program changes to improve effectiveness and efficiency.

The Division's CQI processes consisted of developing and following a strategic plan that contains the Division's mission and goals, key result areas, objectives, and areas of emphasis for each of its five strategic programs.

Our review of the strategic plan disclosed:

- a. The Division had not finalized its strategic plan. The Division committed extensive time over the past 10 years to developing the strategic plan, an associated strategic staffing plan, and a process for staff review and prioritization of areas of emphasis. However, the plan was not finalized or effectively communicated to the Division.
- b. The Division had not consistently developed measurable or time-based objectives. Objectives should be precise, measurable, and time-based actions that support the completion of a goal. Many of the objectives in the Division's strategic plan did not state a specific task to be performed but indicated an overall outcome that the Division wanted to achieve. Other objectives were not measurable because they did not require a certain level of achievement or specify a time for completion. Further, the Division did not have a process in place for monitoring its progress toward accomplishing the objectives. For example, the Division had not evaluated creel surveys that it obtained from small rivers and inland waters since 2000. Creel surveys provide information to help the Division evaluate its fish stocking efforts.
- c. The Division did not annually evaluate or report on its progress toward achieving the areas of emphasis. The Division's CQI processes required the Division to form strategic program committees to establish annual areas of emphasis for each of its 5 programs. These areas of emphasis represent the Division's goals for the year. The Division formed strategic program

\* See glossary at end of report for definition.

committees for fiscal year 2002-03 but had not evaluated or reported on their progress toward achieving the goals for 4 of the 5 programs.

### **RECOMMENDATION**

We recommend that the Fisheries Division fully implement CQI processes to assess the effectiveness and efficiency of the fisheries programs.

### **AGENCY PRELIMINARY RESPONSE**

The Fisheries Division agrees and has informed us that it is updating and finalizing its strategic plan. In addition, the Division informed us that it is working to improve the CQI process by implementing an annual strategic review process that will include establishing clear and measurable program objectives and reporting of achievements as delineated in the strategic plan. With the strategic plan and five-year budget plan as a foundation, the Division informed us that it will implement a full CQI process for fiscal year 2007-08.

### **FINDING**

#### **3. Identifying and Evaluating Angler Preferences**

The Fisheries Division did not survey licensed and unlicensed anglers to determine their preferences, activities, and satisfaction related to the fisheries management program. As a result, the Division was unable to fully evaluate the effectiveness of its fish stocking efforts or fishing regulations.

The Division's strategic plan states that it should conduct a Statewide fishing market analysis to assess changes in the use of fisheries and angler values over time and that it should survey licensed anglers and the unlicensed population to obtain data on and perform analyses of angler preferences, fishing activity, satisfaction, and expenditures. This information is relevant for determining the effectiveness of fish stocking efforts and for evaluating and improving sport fishing regulations.

To establish fish stocking programs and fishing regulations, the Division used the experiences of its fishery managers and input from sportsmen's advisory groups. However, the Division did not survey licensed anglers who also have an interest in the type and number of fish stocked and in fishing rules and regulations.



## **RECOMMENDATION**

We recommend that the Fisheries Division survey licensed and unlicensed anglers to determine their preferences, activities, and satisfaction related to the fisheries management program.

## **AGENCY PRELIMINARY RESPONSE**

The Fisheries Division partially agrees. The Division agrees that a market analysis survey of licensed and unlicensed anglers has not been conducted in some time and agrees that a market analysis, among other things, is important for fully assessing stocking efforts and regulatory changes. However, the Division does not believe that such information is critical for evaluating the effectiveness of fish stocking efforts and fishing regulations.

The Division believes that scientific and biological information regarding fish health, growth, natural reproduction, and overall mortality experienced by fish population should be the primary data used to evaluate fish stocking efforts and fishing regulations.

Further, the Division informed us that Executive Directive No. 2003-8, dated February 27, 2003, directed the identification, reporting of, and moratorium on non-essential contracts for services. Section C of this directive states, "From the effective date of this Directive, departments and autonomous agencies shall not enter into contracts for any of the following: 1) Public relations 2) Conference organization 3) Public opinion research, surveys, or polling 4) Lobbying 5) Promotion or marketing." Although the directive allows for exceptions, the Division informed us that it did not request approval to contract for a market analysis to support the spirit and intent of the Governor's directive.

## **POLICIES AND PROCEDURES FOR MINIMIZING FISH LOSS**

### **COMMENT**

**Audit Objective:** To evaluate the effectiveness of the Fisheries Division's policies and procedures for minimizing fish loss at State-managed fish hatcheries.

**Conclusion: We concluded that the Fisheries Division's policies and procedures for minimizing fish loss at State-managed fish hatcheries were effective.** Our report does not include any reportable conditions related to this objective.

# GLOSSARY

## Glossary of Acronyms and Terms

continuous quality improvement (CQI)	A process that aligns the vision and mission of an organization with the needs and expectations of internal and external customers. It normally includes a process to improve program effectiveness and efficiency by assessing performance indicators that measure outputs and outcomes related to the program vision, mission, goals, and objectives.
DNR	Department of Natural Resources.
effectiveness	Program success in achieving mission and goals.
efficiency	Achieving the most outputs and outcomes practical with the minimum amount of resources.
goals	The agency's intended outcomes or impacts for a program to accomplish its mission.
mission	The agency's main purpose or the reason that the agency was established.
non-salmonid fish	Non-salmonid fish species consist of northern pike, muskellunge, walleye, bass, catfish, lake sturgeon, perch, crappie, and panfish.
objectives	Specific outcomes that a program seeks to achieve its goals.
outcomes	The actual impacts of the program.
outputs	The products or services produced by the program.
performance audit	An economy and efficiency audit or a program audit that is designed to provide an independent assessment of the

performance of a governmental entity, program, activity, or function to improve public accountability and to facilitate decision making by parties responsible for overseeing or initiating corrective action.

performance measurement system

A system for capturing and processing data to determine if the program is achieving its goals.

performance measures

Information of a quantitative or qualitative nature used to assess achievement of goals and/or objectives.

performance standard

A desired level of output or outcome.

reportable condition

A matter that, in the auditor's judgment, represents either an opportunity for improvement or a significant deficiency in management's ability to operate a program in an effective and efficient manner.

salmonid fish

Salmonid fish species consist of trout, steelhead, splake, salmon, and whitefish.





