

# Office of the Auditor General

## Performance Audit Report

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### **Fisheries Division**

#### Department of Natural Resources

March 2018

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State of Michigan Auditor General  
Doug A. Ringler, CPA, CIA

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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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# OAG

Office of the Auditor General

## Report Summary

### *Performance Audit*

### *Fisheries Division*

### *Department of Natural Resources*

**Report Number:**

**751-0150-17**

**Released:**

**March 2018**

The Fisheries Division vision is to provide Michigan with world-class freshwater fishing, supported by healthy aquatic environments. To accomplish this vision, the Division conducts scientific research surveys and stock assessments of the State's waters to understand the aquatic resources, habitats, and fisheries. Information from the surveys is used to determine the types and quantities of fish to stock. During calendar year 2016, the Division placed more than 34 million fish into Michigan's waters. The Division is also responsible for preventing the introduction of new and limiting the spread of established invasive species, detecting and responding to new invasions, and managing and controlling established aquatic invasive species.

Audit Objective			Conclusion
Objective #1: To assess the effectiveness of the Fisheries Division's fish stocking efforts.			Effective
Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
The Fisheries Division did not generate timely aquatic survey reports for 458 (57%) of the 804 surveys completed between March 3, 2014 and December 1, 2016 ( <u>Finding #1</u> ).		X	Agrees
Fisheries Division locations did not maintain complete inventory records. None of the 8 locations that we sampled maintained inventory records of locally controlled fisheries equipment and property ( <u>Finding #2</u> ).		X	Agrees

Audit Objective			Conclusion
Objective #2: To assess the Fisheries Division's efforts to manage State-owned dams and regulate designated natural rivers.			Moderately effective
Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
The Fisheries Division did not periodically review permits issued by local units of government. Also, it did not conduct required site visits prior to issuing private land use permits for properties within designated natural river areas for 94 (22%) of 433 permits that we tested ( <u>Finding #3</u> ).		X	Agrees
The Fisheries Division did not take sufficient action to obtain annual reports from local units of government that regulate private land use on designated natural rivers. For calendar years 2015 and 2016, 27 (45%) and 33 (55%), respectively, of the 60 local units of government did not submit required annual reports ( <u>Finding #4</u> ).		X	Agrees
The Fisheries Division did not complete all recommended maintenance, monitoring, and planning activities for dams for which it is responsible. Five (22%) of 23 recommendations from the Department of Environmental Quality for 8 dams that we reviewed were not implemented ( <u>Finding #5</u> ).		X	Partially agrees

Audit Objective			Conclusion
Objective #3: To assess the effectiveness of the Fisheries Division's efforts to address aquatic invasive species.			Effective
Findings Related to This Audit Objective	Material Condition	Reportable Condition	Agency Preliminary Response
None reported.	Not applicable.		

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**Doug A. Ringler, CPA, CIA**  
Auditor General

March 8, 2018

Ms. Vicki J. Pontz, Chair  
Natural Resources Commission  
and  
Mr. Keith Creagh, Director  
Department of Natural Resources  
Constitution Hall  
Lansing, Michigan

Dear Ms. Pontz and Mr. Creagh:

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

We organize our findings and observations by audit objective. Your agency provided preliminary responses to the recommendations at the end of our fieldwork. The *Michigan Compiled Laws* and administrative procedures require an audited agency to develop a plan to comply with the recommendations and to submit it within 60 days of the date above to the Office of Internal Audit Services, State Budget Office. Within 30 days of receipt, the Office of Internal Audit Services is required to review the plan and either accept the plan as final or contact the agency to take additional steps to finalize the plan.

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

Sincerely,

Doug Ringler  
Auditor General



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# AUDIT OBJECTIVES, CONCLUSIONS, FINDINGS, AND OBSERVATIONS

## FISH STOCKING EFFORTS

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### BACKGROUND

The Fisheries Division is responsible for creating, promoting, maintaining, and enhancing diverse fishing opportunities within the State through species and habitat conservation and management, fishing regulations, and permitting. To accomplish this task, the Division developed a strategic plan that guides the decisions and actions that affect the health of Michigan's aquatic resources; completed surveys of the aquatic environment of lakes, rivers, streams, creeks, and certain ditches; sought feedback from seven advisory committees composed of anglers, fishing club members, conservation groups, and local government; stocked fish in public waters; and completed creel surveys\* of fish catches.

During calendar year 2016, the Fisheries Division completed 279 surveys of Michigan waters to analyze the status of the water's fish population. During the fall 2015 and spring 2016 fish migrations, the Division harvested 3.6 million Chinook salmon eggs from the Little Manistee River and Swan River weirs\*, over 5 million Coho salmon eggs from the Platte River weir, and over 4 million steelhead eggs from the Little Manistee River weir. For calendar year 2016, the Division, the federal government, private providers, educational institutions, and Native American tribes stocked 23 different species and 40.6 million fish (see Exhibit #1).

### AUDIT OBJECTIVE

To assess the effectiveness\* of the Fisheries Division's fish stocking efforts.

### CONCLUSION

Effective.

### FACTORS IMPACTING CONCLUSION

- For the spring 2016 stocking, the Division stocked 97% of the 586 sites with the prescribed amount of fish.
- The Division stocked the 25 sites we reviewed with the count of fish consistent with the recommended allocation.
- The Division pursued the 16 recommendations from the aquatic survey reports that we reviewed.
- The Division conducted health inspections on the lots of fish that it stocked on the 5 sites we reviewed.
- The Division verified that the 10 private entities we reviewed that stocked fish in public waters had conducted health inspections on fish lots prior to stocking.

\* See glossary at end of report for definition.

- The Division pursued public input on Michigan's fisheries via advisory committees, creel surveys, Web site surveys, and open houses at Department of Natural Resources (DNR) offices.
- The Division conducted inventories of tagged equipment during 2016 and 2017 at the 8 locations we reviewed.
- Reportable conditions\* related to generating timely aquatic survey reports and maintaining more complete inventory records (Findings #1 and #2).

*\* See glossary at end of report for definition.*

## FINDING #1

### Timeliness of survey reports needs improvement.

The Fisheries Division did not generate timely aquatic survey reports. Without these reports, the current status of the fish population and water body, including proposed actions, is not readily available for management, biologists, or the general public.

The Fisheries Division conducts surveys of Michigan's bodies of water to:

- Document the characteristics of the State's aquatic resources at a point in time.
- Provide a factual basis for fisheries evaluation, planning, management, and re-evaluation.
- Supply data for aquatic scientists and managers.

Chapter 5 of DNR's Manual of Fisheries Survey Methods II states that a final report is required for aquatic surveys that contains a description of survey methods used, survey results, analysis and discussion, and management recommendations.

The Division did not generate timely reports for 458 (57%) of 804 surveys completed.

We reviewed the 804 aquatic surveys conducted by the Fisheries Division between March 3, 2014 and December 1, 2016 and determined that, as of August 18, 2017, the Division had not generated reports for 458 (57%) of the surveys, as specified in the following table:

	Calendar Year			Total
	2014	2015	2016	
Surveys conducted	270	255	279	804
Reports completed	144	122	80	346
Surveys without reports	126	133	199	458

The Fisheries Division indicated that survey reports usually take up to one year to publish after completing survey fieldwork. However, for 125 surveys, the Division completed fieldwork between 2.8 and 3.4 years prior to publishing the reports. For an additional 107 surveys, fieldwork had been completed between 1.9 and 2.7 years prior to publishing the reports.

The Fisheries Division informed us that a lack of resources during calendar year 2016 contributed to the delays in generating the reports. Also, the system used to store survey data and generate reports, which was implemented in 1995, is no longer supported by the vendor or the Department of Technology, Management, and Budget. Because of system defects, the Division did not utilize the system from October 1, 2016 through January 10, 2017 and, therefore, did not create reports during that period. Our

review did not disclose any instances in which the Division stocked fish without first performing an aquatic survey.

**RECOMMENDATION**

We recommend that the Fisheries Division generate timely aquatic survey reports.

**AGENCY  
PRELIMINARY  
RESPONSE**

DNR provided us with the following response:

*DNR agrees with the recommendation. The Fisheries Division is currently engaged in quality assurance/quality control work with respect to unfinished surveys and the computer application that supports survey data. A new software platform is being pursued, as the existing software is unsupported and has significant structural and performance issues. To ensure timely reporting in the future, the Division will assess the appropriate number of surveys to be completed in a given year in relation to staffing levels. These actions will be implemented by September 30, 2020.*

## FINDING #2

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### More complete inventory records of fisheries equipment and property needed.

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Fisheries Division locations did not maintain complete inventory records of fisheries equipment and property in accordance with DNR policy to help safeguard items susceptible to theft.

DNR Policy 04.02.15 states that all DNR units must maintain an inventory of locally controlled property, including equipment and property that costs less than \$1,000 which is either susceptible to theft or has a long useful life. The policy also requires that DNR locations conduct an annual physical inventory of locally controlled equipment and property. Examples of equipment located at DNR management units, research stations, and hatcheries include:

- Handheld items such as binoculars, cameras, and power tools.
- Mobile items such as air compressors, chain saws, outboard motors, and welding equipment.
- Stationary equipment such as air conditioning units, mounted power tools, and televisions.

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Inventory records not maintained of locally controlled equipment and property.

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We selected a random sample of 8 of 36 Fisheries Division locations to determine whether current inventory listings were maintained. None of the 8 locations maintained inventories of locally controlled equipment and property. Division staff informed us that they were unaware of DNR's requirement to maintain inventory records for equipment and property costing less than \$1,000.

## RECOMMENDATION

We recommend that Fisheries Division locations maintain complete inventory records of fisheries equipment and property in accordance with DNR policy.

## AGENCY PRELIMINARY RESPONSE

DNR provided us with the following response:

*DNR agrees with the recommendation. DNR is currently working with the Department of Technology, Management, and Budget on a new enterprise asset management system that will assist in managing DNR facilities and equipment. DNR will evaluate and make necessary modifications to and/or rewrite the current DNR Policy 04.02.15 (locally controlled equipment and property) to ensure that it remains appropriate and relevant. Upon completion of the enterprise system, the Division will ensure compliance with the new policy. This will be completed by September 30, 2020.*

# MANAGEMENT OF STATE-OWNED DAMS AND DESIGNATED NATURAL RIVERS

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## BACKGROUND

The Fisheries Division is responsible for the maintenance of 56 State-owned dams (see Exhibit #2); 28 of these dams meet the criteria defined within Section 324.31502 of the *Michigan Compiled Laws* (known as Part 315 dams) and are required to be periodically inspected by the Department of Environmental Quality (DEQ). Inspection frequency is determined by the potential hazard associated with the dam's failure.

Section 324.30502 of the *Michigan Compiled Laws* states that DNR may designate a river or portion of a river as a natural river area for the purpose of preserving and enhancing its value for water conservation, its free flowing condition, and its fish, wildlife, boating, scenic, aesthetic, floodplain, ecologic, historic, and recreational value and use. DNR has designated 16 natural rivers (see Exhibit #3).

## AUDIT OBJECTIVE

To assess the Fisheries Division's efforts to manage State-owned dams and regulate designated natural rivers.

## CONCLUSION

Moderately effective.

## FACTORS IMPACTING CONCLUSION

- The Division ensured that DEQ inspected the 28 dams that it was responsible for at the recommended intervals.
- During fiscal years 2014 through 2016, the Division reported that it provided technical expertise, funding, or direct involvement in the removal of 16 dams to return portions of water bodies back to their natural state and the repair of 2 dams to protect DNR assets.
- The Division developed long-range plans for the proposed use of the 16 natural rivers and was responsible for administering private land use permit applications for 103 townships.
- Reportable conditions related to reviewing private land use permits in natural river areas, obtaining annual reports from local units of government, and completing recommended dam activities (Findings #3 through #5).

## FINDING #3

### Review of permits issued for private land use in designated natural river areas needed.

The Fisheries Division did not periodically review permits issued by local units of government or conduct required site visits prior to issuing private land use permits for properties within Michigan's designated natural river areas. Reviews of permits and site visits would provide assurance that zoning rules and local ordinances were followed and that the proposed land use does not cause ecological damage that could impact aquatic life and recreational values.

*Michigan Administrative Code R 281.56* states that, within a natural river area, a building or other structure shall not be erected, moved, added to, or structurally altered and land use shall not be commenced without a zoning permit. State and local units of government can approve and issue private land use permits. State of Michigan Administrative Guide to State Government procedure 1710.09 requires Natural Rivers Program staff to review each permit application for completeness, perform a site visit, and make a final decision within 60 days of receiving a permit application.

Natural river areas exist within 163 townships. Local units of government are responsible for issuing permits in 60 of these townships, whereas the remaining 103 townships are the responsibility of the Fisheries Division. Our review of the permitting process disclosed that the Division did not:

- a. Conduct reviews of the permits issued by local units of government during our audit period.

Although there are no specific regulations requiring DNR to review locally issued permits, without this effort the Division cannot ensure that the permitted land use or construction complies with Michigan statute.

94 (22%) of 433 private land use permits were approved and issued without a required inspection.

- b. Visit all permit application sites prior to approving and issuing permits.

Between January 1, 2014 and October 17, 2017, the Division approved and issued 433 zoning permits, of which 94 (22%) were issued without site visits:

	Calendar Year				Total
	2014	2015	2016	2017	
Number of permits issued	103	112	137	81	433
Number (percentage) of permits issued without site visits	26 (25%)	31 (28%)	25 (18%)	12 (15%)	94 (22%)



The Fisheries Division informed us that its review of permits issued by local units of government was an established practice several years ago. However, a reduction in the number of employees dedicated to the Natural Rivers Program since 2009 impacted the Division's ability to conduct permit reviews and site visits.

**RECOMMENDATION**

We recommend that the Fisheries Division periodically review permits issued by local units of government and conduct required site visits prior to issuing private land use permits for properties within Michigan's designated natural river areas.

**AGENCY  
PRELIMINARY  
RESPONSE**

DNR provided us with the following response:

*DNR agrees with the recommendation.*

*With regard to part a., the Division will develop and maintain a database of permits issued by local units of government. Additionally, staff will enter into the database the type of review conducted to ensure that the permitted activity complies with Michigan statute. With regard to part b., the Division will address (permit application) site visits by providing additional staff resources, thereby allowing staff to allocate more time to site visits. These actions will be completed by September 30, 2019.*

## FINDING #4

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**More actions needed to obtain annual reports for private land use on designated natural rivers.**

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The Division did not obtain 60 (50%) of 120 reports during calendar years 2015 and 2016.

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The Fisheries Division did not take sufficient action to obtain annual reports from local units of government that regulate private land use on designated natural rivers. Without annual reports, the Division cannot monitor the number and purpose of permits issued by local units of government and ensure compliance with natural rivers zoning rules.

*Michigan Administrative Code R 281.62(4)(b) requires each local unit of government to provide an annual report to the State natural rivers zoning administrator by March 1 of each year for the preceding year's zoning activity. The annual report shall include the number of land use/zoning permit applications, variance applications, and special use applications received by the local unit.*

For calendar years 2015 and 2016, 27 (45%) and 33 (55%), respectively, of the 60 local units of government that directly regulate private land use did not submit the required annual reports, with 20 not submitting annual reports in either calendar year.

The Fisheries Division informed us that the number of employees dedicated to the Natural Rivers Program has decreased from 5 in 2009 to 1.5 in 2017 and that it did not have sufficient resources to ensure the receipt of annual reports. In addition, the Division did not utilize a formal process to track which local units submitted their annual reports.

## RECOMMENDATION

We recommend that the Fisheries Division take sufficient action to obtain annual reports from local units of government that regulate private land use on designated natural rivers.

## AGENCY PRELIMINARY RESPONSE

DNR provided us with the following response:

*DNR agrees with the recommendation. Currently, the Division maintains a database of permit applications received by local units of government. Also, the Division annually reaches out to local units of government with a formal notice asking them to submit their annual report, and this notice includes a form for completing their annual report. To gain better compliance by local units of government in their submittal of annual reports (regarding the preceding year's activities), the Division will send an additional reminder letter by July 1 of each year. This recommendation to staff will be completed by September 30, 2018.*

## FINDING #5

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### Increased pursuit of recommended dam activities needed.

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The Fisheries Division did not complete all recommended maintenance, monitoring, and planning activities for dams for which it is responsible. Pursuing these recommendations would help reduce the risk of dam failure that could result in fish kills, habitat destruction, and release of sediment that may contain contaminants.

The Fisheries Division is responsible for maintenance of 28 State-owned dams that are classified as Part 315 dams under the terms of Section 324.31502 of the *Michigan Compiled Laws*. These dams are barriers that impound or divert water, are 6 feet or more in height, or have or will have an impounding capacity at the design flood elevation of 5 or more surface acres.

Inspection of these dams is the responsibility of DEQ, which completes the inspections every 3 to 5 years, depending on the hazard associated with the dam, to evaluate the structural condition and hydraulic capacity of the dam. DEQ documents the dam's condition, deficiencies that could lead to dam failure, and recommendations for maintenance and repairs within an inspection report. Local Fisheries Division staff are responsible for maintaining and repairing dams and pursuing DEQ's recommendations.

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5 (22%) of DEQ's 23 recommendations for 8 dams we reviewed were not implemented.

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We reviewed the most recent inspection reports completed by DEQ for 8 Part 315 dams, which included 23 recommendations. The Fisheries Division did not implement 5 (22%) of the 23 recommendations related to 2 of the dams. Items not completed included:

- Planning for the design and construction of a spillway outlet pipe.
- Continuing the monitoring of downstream groins\* on a quarterly basis.
- Periodically exercising and lubricating the spillway gate to the dam.

Fisheries Division staff indicated that the recommendations were not implemented because more pressing issues were pursued or because they disagreed with certain recommendations.

## RECOMMENDATION

We recommend that the Fisheries Division complete all recommended maintenance, monitoring, and planning activities for dams for which it is responsible.

\* See glossary at end of report for definition.

**AGENCY  
PRELIMINARY  
RESPONSE**

DNR provided us with the following response:

*DNR partially agrees with the recommendation. The Division will develop and maintain a locally-controlled database of dam management recommendations. The database will allow for tracking of maintenance, monitoring, and planning activities as well as the respective completion dates. In addition, the Division will work with DEQ to establish timelines for completing said activities and pursue budgetary authority as needed. It is noted that recommendations from the Dam Safety Section regarding dam maintenance and repair are not required, unless said recommendations are accompanied by existing statutory language. Recommendations for maintenance and repair are considered at the Management Unit level by professional habitat biologists, who take into account budgets, priorities, site conditions, resources, alternative actions, and professional judgement prior to carrying out the recommended activities. These actions will be completed by September 30, 2020.*

## EFFORTS TO ADDRESS INVASIVE SPECIES

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### BACKGROUND

Michigan's invasive species\* program is a joint venture by DNR, DEQ, and the Michigan Department of Agriculture and Rural Development. The departments share responsibility for invasive species policy, legislation, regulation, education, and monitoring. The program has four goals:

1. Prevent new invasive species introduction into Michigan.
2. Develop a Statewide interagency invasive species early detection and response program to address new invasions.
3. Limit the spread of the established invasive species population throughout Michigan.
4. Manage and control invasive species to minimize harmful environmental, economic, and public health effects resulting from established populations.

To combat invasive species, the Fisheries Division is involved in a number of relationships with other entities and utilizes a variety of methods to educate the public. A list of established aquatic invasive species documented in Michigan as of September 30, 2016 is presented in Exhibit #4.

### AUDIT OBJECTIVE

To assess the effectiveness of the Fisheries Division's efforts to address aquatic invasive species.

### CONCLUSION

Effective.

### FACTORS IMPACTING CONCLUSION

- Based on our judgmental sample of 10 permits, the Division appropriately issued permits to gather, display, or study aquatic invasive species.
- The Division's Asian Carp Management Plan provides the State with an active monitoring plan to deter the invasion of Asian carp.
- The Division is involved in a number of committees, cooperatives, advisory councils, and relationships to share responsibility for invasive species policy, legislation, regulation, education, monitoring, assessment, and management controls.
- The Division developed a number of methods of educating the public on invasive species, including YouTube videos,

\* See glossary at end of report for definition.

press releases, annual reports, invasive species newsletters, the Division's Web site, and public meetings.

- The Division developed a process to assist with awarding and monitoring grants related to preventing the introduction or spread of aquatic invasive species.



## SUPPLEMENTAL INFORMATION

FISHERIES DIVISION  
Department of Natural Resources  
Fish Stocking by Species and Provider  
From March 31, 2014 through August 21, 2017

Species	2014			2015			2016			2017		
	Public	Private	Tribal	Public	Private	Tribal	Public	Private	Tribal	Public	Private	Tribal
Atlantic Salmon	225,175			228,224			238,619			139,368		
Black Crappie		15,679		71	10,697		150	13,974			250	
Bluegill	151	12,279		550	3,655		810	2,350		237	2,000	
Brook Trout	98,259	1,725		97,485	4,472		107,526	6,722		74,320	1,650	
Brown Trout	1,372,495	3,650		1,887,323	3,700		1,324,516	7,969		1,364,722	630	
Channel Catfish	16,544	140		36,474	200		21,003	450		27,414		
Chinook Salmon	1,628,485			1,670,407			1,471,051			1,008,044		
Coho Salmon	1,570,200			1,688,379			1,562,086			1,472,339		
Fathead Minnow		381,400			381,788			1,094,250			200,000	
Golden Shiner		33,333			77,600			138,000				
Hybrid Sunfish	1,280	1,200		1,342	6,500		1,579	400				
Lake Herring			57,905						71,491			
Lake Sturgeon	5,212		768	41,334		506	68,184		239	193		
Lake Trout	3,776,372	213		4,066,017	100		3,762,554	50		331,811		
Largemouth Bass		4,016		103	1,320			1,150		80	100	
Muskellunge	44,044			108,891	200		26,850	200		66		
Northern Pike	107,605	490		5,279	500	140	10,285	434		3,438		
Rainbow Trout	2,116,393	16,933		2,502,460	14,396		2,040,205	17,185		1,919,773	6,946	
Redear Sunfish		4,816			3,230			6,627				
Smallmouth Bass	310	1,186		75	450			2,833				
Splake	202,057			211,660			233,704			225,230		
Walleye	14,127,152	54,119	1,306,854	16,652,654	82,249	982,972	27,684,672	41,785	645,415	17,335,733		1,573,795
Yellow Perch		16,191			9,095			9,320			800	
Total fish stocked by provider	25,291,734	547,370	1,365,527	29,198,728	600,152	983,618	38,553,794	1,343,699	717,145	23,902,768	212,376	1,573,795
Total fish stocked by year	27,204,631			30,782,498			40,614,638			25,688,939		

Source: The OAG prepared this exhibit using data from DNR's Fish Stocking Database ([www.michigandnr.com/fishstock/](http://www.michigandnr.com/fishstock/)).



UNAUDITED  
Exhibit #1

Total by Species	Total Public by Species	Total Private by Species	Total Tribal by Species
831,386	831,386	0	0
40,821	221	40,600	0
22,032	1,748	20,284	0
392,159	377,590	14,569	0
5,965,005	5,949,056	15,949	0
102,225	101,435	790	0
5,777,987	5,777,987	0	0
6,293,004	6,293,004	0	0
2,057,438	0	2,057,438	0
248,933	0	248,933	0
12,301	4,201	8,100	0
129,396	0	0	129,396
116,436	114,923	0	1,513
11,937,117	11,936,754	363	0
6,769	183	6,586	0
180,251	179,851	400	0
128,171	126,607	1,424	140
8,634,291	8,578,831	55,460	0
14,673	0	14,673	0
4,854	385	4,469	0
872,651	872,651	0	0
80,487,400	75,800,211	178,153	4,509,036
35,406	0	35,406	0
124,290,706	116,947,024	2,703,597	4,640,085
	124,290,706		

FISHERIES DIVISION  
Department of Natural Resources  
Fisheries Division Dams  
As of October 16, 2017

Responsible Party	Dam Name	County	Part 315 Dam?
Western Lake Superior Management Unit	Miners River Lamprey Barrier	Alger	No
Northern Lake Michigan Management Unit	West Branch Whitefish River Lamprey Barrier	Alger	No
Northern Lake Huron Management Unit	James Farm Walleye Pond Dam	Alpena	Yes
Southern Lake Huron Management Unit	Kawkawlin River Walleye Pond Dam	Bay	Yes
Central Lake Michigan Management Unit	Brundage Pond Dam	Benzie	No
Central Lake Michigan Management Unit	Homestead Dam	Benzie	Yes
Platte River Hatchery	Platte River Weir	Benzie	No
Northern Lake Huron Management Unit	Lawton Walleye Pond Dam	Charlevoix	No
Northern Lake Huron Management Unit	Crooked Lake Walleye Pond	Cheboygan	No
Northern Lake Huron Management Unit	Cornwall Creek Dam	Cheboygan	Yes
Northern Lake Huron Management Unit	Roberts Lake Dam	Cheboygan	Yes
Northern Lake Huron Management Unit	Albany Creek Lamprey Barrier	Chippewa	No
Eastern Lake Superior Management Unit	Sheldrake Dam	Chippewa	Yes
Northern Lake Huron Management Unit	Trout Brook Pond Dam	Chippewa	Yes
Northern Lake Huron Management Unit	Big Creek Dam	Crawford	Yes
Northern Lake Michigan Management Unit	Carr Creek Fish Barrier Dam	Delta	No
Northern Lake Michigan Management Unit	Days River Lamprey Barrier	Delta	No
Northern Lake Michigan Management Unit	Grasshopper Gulch Walleye Pond Dam	Delta	Yes
Northern Lake Michigan Management Unit	Warren's Walleye Pond Dam	Dickinson	Yes
Northern Lake Michigan Management Unit	Gene's Pond Dam	Dickinson	Yes
Southern Lake Huron Management Unit	Hoister Lake Dam	Gladwin	Yes
Southern Lake Huron Management Unit	Trout Lake Dam	Gladwin	Yes
Western Lake Superior Management Unit	Beatons Lake Dam	Gogebic	No
Western Lake Superior Management Unit	Black River Dam	Gogebic	Yes
Central Lake Michigan Management Unit	Walton Dam	Grand Traverse	No
Central Lake Michigan Management Unit	Lake Dubonnet Dam	Grand Traverse	Yes
Western Lake Superior Management Unit	Boston Pond Dam	Houghton	Yes
Southern Lake Huron Management Unit	East Branch Au Gres River Lamprey Barrier	Iosco	No
Southern Lake Michigan Management Unit	Jackson Prison Dam	Jackson	Yes
Eastern Lake Superior Management Unit	Dollarville Dam	Luce	Yes
Northern Lake Michigan Management Unit	Spring Creek Trout Pond Dam	Luce	Yes
Eastern Lake Superior Management Unit	Brockies Pond Dam	Luce	Yes
Eastern Lake Superior Management Unit	Silver Creek Trout Pond Dam	Luce	Yes
Northern Lake Michigan Management Unit	Millecoquins Creek Dam	Mackinac	Yes
Northern Lake Michigan Management Unit	Arfelin Lake Fish Barrier Dam	Marquette	No
Western Lake Superior Management Unit	Big Trout Lake Fish Barrier Dam	Marquette	No
Northern Lake Michigan Management Unit	Brocky Lake Fish Barrier Dam	Marquette	No
Western Lake Superior Management Unit	Marquette Fish Hatchery Dam	Marquette	No
Northern Lake Michigan Management Unit	Squaw Lake Fish Barrier Dam	Marquette	No
Northern Lake Michigan Management Unit	Wolf Lake Fish Barrier Dam	Marquette	No
Northern Lake Huron Management Unit	Section Z Bulkhead Dam	Montmorency	No
Northern Lake Huron Management Unit	Foch Lakes Dam	Montmorency	Yes
Alpena Research Station	East Fish Lake Dam	Montmorency	Yes
Northern Lake Huron Management Unit	Mio Walleye Pond Dam	Oscoda	No
Northern Lake Huron Management Unit	Tomahawk Creek Flooding Dam	Presque Isle	Yes
Thompson Fish Hatchery	Thompson Creek Blocking Weir	Schoolcraft	No
Northern Lake Michigan Management Unit	Kings Pond Dam	Schoolcraft	Yes
Southern Lake Michigan Management Unit	Almena Hatchery Dam #1	Van Buren	No
Southern Lake Michigan Management Unit	Old Masonry Dam	Van Buren	No
Southern Lake Michigan Management Unit	Almena Hatchery Dam #2	Van Buren	No
Southern Lake Michigan Management Unit	Almena Hatchery Dam #3	Van Buren	No
Southern Lake Michigan Management Unit	Almena Hatchery Dam #4	Van Buren	No
Southern Lake Michigan Management Unit	Almena Hatchery Dam #5	Van Buren	No
Southern Lake Michigan Management Unit	Almena Diversion Dam	Van Buren	No
Wolf Lake Fish Hatchery	Wolf Lake Fish Hatchery Dam	Van Buren	Yes
Institute for Fisheries Research	Spring Brook Dam	Washtenaw	Yes

Source: The OAG prepared this exhibit using information obtained from DNR.

FISHERIES DIVISION  
Department of Natural Resources  
Map of Natural Rivers  
As of September 30, 2017



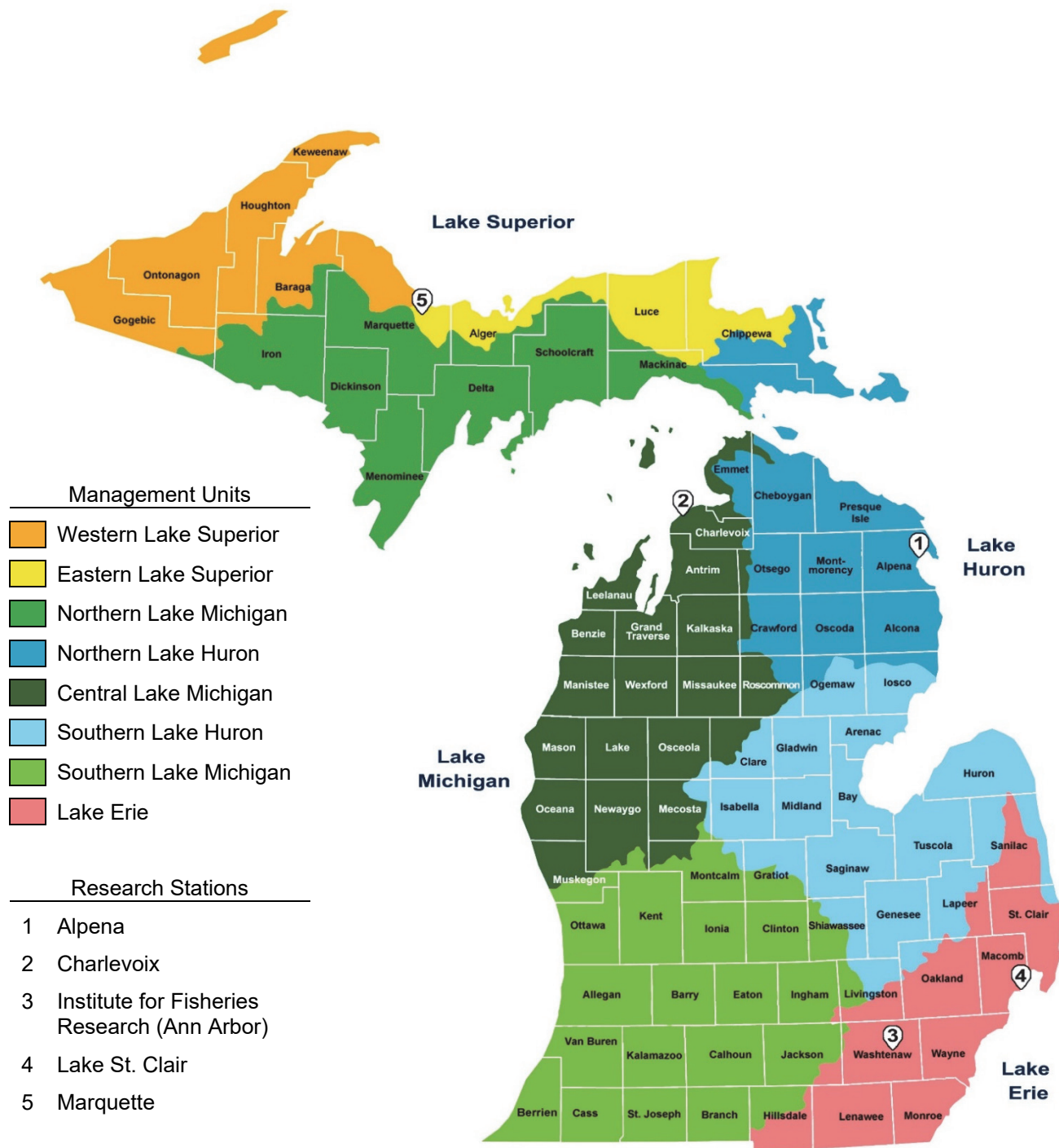
Source: DNR-provided map, which the OAG edited with DNR's permission.

FISHERIES DIVISION  
Department of Natural Resources  
Established Aquatic Invasive Species in Michigan  
As of September 30, 2016

	<u>Distribution in Michigan</u>
Crustaceans:	
Rusty Crayfish	Widespread and breeding in inland waters.
Fish:	
Eurasian Ruffe	Patchy distribution in the Great Lakes.
Grass Carp (a species of Asian carp)	Suspected limited natural reproduction in Lake Erie and isolated detections in the St. Joseph and Kalamazoo Rivers and Paw Paw Lake.
Japanese Weatherfish	Single breeding population in the Shiawassee River.
Round Goby	Widespread and established in Lakes Erie, Huron, and Michigan. Isolated population in Lake Superior and isolated but established population in inland waters.
Tubenose Goby	Isolated established populations in the Detroit and St. Clair Rivers, Lake St. Clair, and western Lake Erie.
Mollusk:	
Carthusian Snail	Locally abundant in Wayne County.
Girdled Snail	Locally abundant in Wayne County.
Heath Snail	Locally abundant in Lapeer County, southeast Michigan.
New Zealand Mudsnail	Established in Lake Ontario and Lake Erie and present in Lake Superior. Established populations in the Au Sable, Boardman, and Pere Marquette Rivers.
Quagga Mussel	Located in all Great Lakes. Isolated inland waters occurrences.
Wrinkled Dune Snail	Locally abundant in Wayne County.
Zebra Mussel	Widespread in the Great Lakes and inland waters of the lower peninsula. Patchy distribution in Lake Superior and upper peninsula inland waters.

Source: 2016 Michigan Invasive Species Program Annual Report.

FISHERIES DIVISION  
Department of Natural Resources  
Map of Management Units and Research Stations  
As of September 30, 2017



Source: DNR-provided map, which the OAG edited with DNR's permission.

## AGENCY DESCRIPTION

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The mission\* of the Fisheries Division is to protect and enhance Michigan's aquatic life and habitats for the benefit of current and future generations. The Division's vision is to provide world-class freshwater fishing, supported by healthy aquatic environments, which enhances the quality of life in Michigan.

To pursue its mission, the Division uses a broad base of information supported by years of assessments, research, and experience along with input from the public. The information is provided by 8 management units that perform aquatic surveys of lakes, rivers, streams, creeks, and certain ditches (see Exhibit #5); 5 research stations that conduct scientific surveys and analysis to support DNR management and the strategic plan; and 3 supporting service units (Tribal Coordination, Aquatic Species and Regulatory Affairs, and Habitat Management) that coordinate fish stocking, manage invasive species, monitor dams and natural rivers programs, and provide expertise on habitat protection.

The Fisheries Division is responsible for managing 153 species of fish and more freshwater than any other State. The Division operates 5 weirs that are used to collect eggs for use at the State's 6 fish hatcheries.

The majority of the Fisheries Division funding is from federal sources and the sale of fishing licenses. For fiscal year 2016, Division expenditures totaled \$29.7 million. As of September 30, 2017, the Division had 198 full-time employees.

*\* See glossary at end of report for definition.*

## AUDIT SCOPE, METHODOLOGY, AND OTHER INFORMATION

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### AUDIT SCOPE

To examine the program and other records related to the Fisheries Division. We conducted this performance audit\* in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Within the scope of the audit, we reviewed information gathered by biologists related to the fisheries in various bodies of water. Because we do not possess expertise in the aquaculture field, we did not review or conclude on the professional opinions related to the number and types of fish species stocked.

### PERIOD

Our audit procedures, which included a preliminary survey, audit fieldwork, report preparation, analysis of agency responses, and quality assurance, generally covered January 1, 2014 through September 30, 2017.

### METHODOLOGY

We conducted a preliminary survey to gain an understanding of Fisheries Division operations in order to establish our audit objectives, scope, and methodology. During our preliminary survey, we:

- Interviewed Division staff and reviewed policies, procedures, laws, and regulations.
- Visited a Division fish hatchery, management unit, and research station to obtain an understanding of operations.
- Analyzed appropriations and expenditures for fiscal years 2015 through 2017.
- Reviewed the Division's 2013 through 2017 Strategic Plan, the Division's fiscal year 2016 Annual Report, and the 2016 Michigan Invasive Species Program Annual Report.
- Identified the dams that the Division is responsible for and obtained an understanding of DEQ's inspection process.
- Obtained an understanding of the fish survey and fish stocking processes and reviewed fish stocking records from March 31, 2014 through August 21, 2017.

\* See glossary at end of report for definition.

## OBJECTIVE #1

To assess the effectiveness of the Fisheries Division's fish stocking efforts.

To accomplish this objective, we:

- Tested user access to the Prescriptions, Fish Collection, and Fish Stocking information systems.
- Verified whether the Prescriptions, Fish Collection, and Fish Stocking information systems contained complete and accurate information.
- Analyzed data related to the 804 aquatic surveys completed during calendar years 2014 through 2016 to identify surveys for which reports had not been generated by August 18, 2017.
- Assessed whether the Division pursued the recommendations from a random sample of 10 of the 346 aquatic survey reports completed during calendar years 2014 through 2016.
- Reviewed a random sample of 10 of the 359 fish stocking prescriptions approved between January 1, 2016 and June 28, 2017 to determine if the prescriptions were properly approved by Division management.
- Reviewed a random sample of 25 of the 1,092 stocking activities completed by DNR hatcheries during the spring 2016 stocking to determine consistency with the associated prescription.
- Reviewed a random sample of 5 of the 25 stocking activities to determine whether the hatcheries had tested fish health prior to stocking.
- Reviewed a random sample of 10 of the 183 fish stocking activities completed by private fish providers between March 7, 2016 and August 20, 2017 to ensure that the providers had the health of their fish assessed prior to stocking. We also verified that the 10 private providers were properly permitted, forwarded a stocking report to DNR, and stocked the required amount of fish.
- Reviewed a random sample of 8 Division locations to determine if the locations completed annual inventories of equipment and property.
- Reviewed the strategies and tactics the Division associated with 2 of the 5 goals identified within its 2013 through 2017 Strategic Plan to determine if those strategies and tactics were pursued and measurable.



- Reviewed the Division's efforts to seek public information related to the fishing and aquatic environments within the State.

We selected our random samples to eliminate bias and enable us to project our testing results to the intended entire population.

## **OBJECTIVE #2**

To assess the Fisheries Division's efforts to manage State-owned dams and regulate designated natural rivers.

To accomplish this objective, we:

- Interviewed staff responsible for dams and the Natural Rivers Program to obtain an understanding of their monitoring efforts.
- Verified whether the 56 dams that the Division was responsible for were correctly classified and that periodic inspections of 28 dams were completed by DEQ in compliance with the requirements of Part 315 of Public Act 451 of 1994.
- Reviewed a selection of the most recent inspection reports for 8 dams to determine whether the Division addressed DEQ's recommendations. We judgmentally selected the reports based on hazard ratings, management unit location, and inspection date. Therefore, we could not project the results to the entire population.
- Verified that management plans were developed for the 16 natural river areas.
- Assessed whether the Division received annual reports from the 60 local units of government that issue private land use permits within the 16 natural river areas.
- Assessed whether the Division periodically reviewed permits issued by local units of government.
- Analyzed data related to 433 zoning permits issued between January 1, 2014 and October 17, 2017.

## **OBJECTIVE #3**

To assess the effectiveness of the Fisheries Division's efforts to address aquatic invasive species.

To accomplish this objective, we:

- Interviewed Division staff to identify the efforts utilized to prevent the introduction or spread of invasive species.

- Reviewed a selection of 10 of the 83 invasive species collector's permits approved during fiscal years 2014 through 2016 to determine if the Division's permitting process prevented the introduction or spread of the invasive species. We judgmentally selected the permits based on the number of permits issued for a particular type, the fiscal year issued, and whether duplicate permits were issued for a species. Therefore, we could not project the results to the entire population.
- Reviewed the Sea Lamprey Invasive Species Grant Agreement and update report for the period ended September 30, 2017.
- Reviewed the Status Report for the Proposed 2010 Plan for the Prevention, Detection, Assessment, and Management of Asian Carps in Michigan Waters dated April 2012 and compared it with the goals and outcomes in the original plan to determine if the Division met its goals.
- Assessed the Division's educational and outreach efforts for preventing the introduction or spread of invasive species.

## CONCLUSIONS

We base our conclusions on our audit efforts and any resulting material conditions\* or reportable conditions.

When selecting activities or programs for audit, we direct our efforts based on risk and opportunities to improve State government operations. Consequently, we prepare our performance audit reports on an exception basis.

## AGENCY RESPONSES

Our audit report contains 5 findings and 5 corresponding recommendations. DNR's preliminary response indicates that it agrees with 4 of the 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 at the end of our fieldwork. Section 18.1462 of the *Michigan Compiled Laws* and the State of Michigan Financial Management Guide (Part VII, Chapter 4, Section 100) require an audited agency to develop a plan to comply with the recommendations and to submit it within 60 days after release of the audit report to the Office of Internal Audit Services, State Budget Office. Within 30 days of receipt, the Office of Internal Audit Services is required to review the plan and either accept the plan as final or contact the agency to take additional steps to finalize the plan.

\* See glossary at end of report for definition.

**PRIOR AUDIT  
FOLLOW-UP**

Following is the status of the reported findings from our August 2006 performance audit of the Fisheries Division, Department of Natural Resources (75-150-04):

Prior Audit Finding Number	Topic Area	Current Status	Current Finding Number
1	Testing Non-Salmonid Fish Species	Complied	Not applicable
2	Implementing Continuous Quality Improvement (CQI) Processes	Complied	Not applicable
3	Identifying and Evaluating Angler Preferences	Complied	Not applicable

**SUPPLEMENTAL  
INFORMATION**

Our audit report includes supplemental information presented as Exhibits #1 through #5. Our audit was not directed toward expressing a conclusion on this information.

## GLOSSARY OF ABBREVIATIONS AND TERMS

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<b>creel survey</b>	A survey conducted on Michigan waters to estimate angling effort and catch or harvest by species. Surveys may be conducted for specific purposes, such as to characterize the fishery, evaluate fish stocking, or evaluate fishing regulations.
<b>DEQ</b>	Department of Environmental Quality.
<b>DNR</b>	Department of Natural Resources.
<b>effectiveness</b>	Success in achieving mission and goals.
<b>groins</b>	Obstructions placed in the river or stream with one end on the bank and the other projecting flow.
<b>invasive species</b>	A species that is not native and whose introduction causes harm, or is likely to cause harm, to Michigan's economy, environment, or human health by reproducing and spreading rapidly in areas where they have no natural predators and change the balance of the ecosystems.
<b>material condition</b>	A matter that, in the auditor's judgment, is more severe than a reportable condition and could impair the ability of management to operate a program in an effective and efficient manner and/or could adversely affect the judgment of an interested person concerning the effectiveness and efficiency of the program.
<b>mission</b>	The main purpose of a program or an entity or the reason that the program or the entity was established.
<b>OAG</b>	Office of the Auditor General.
<b>performance audit</b>	An audit that provides findings or conclusions based on an evaluation of sufficient, appropriate evidence against criteria. Performance audits provide objective analysis to assist management and those charged with governance and oversight in using the information to improve program performance and operations, reduce costs, facilitate decision-making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.

**reportable condition**

A matter that, in the auditor's judgment, is less severe than a material condition and falls within any of the following categories: an opportunity for improvement within the context of the audit objectives; a deficiency in internal control that is significant within the context of the audit objectives; all instances of fraud; illegal acts unless they are inconsequential within the context of the audit objectives; significant violations of provisions of contracts or grant agreements; and significant abuse that has occurred or is likely to have occurred.

**weir**

A fence or enclosure set in a waterway for taking fish.







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