

STUDY PERFORMANCE REPORT

State: Michigan

Project No.: F-81-R-8

Study No.: 230436

Title: Vital Statistics of walleyes in Saginaw Bay

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

Study Objective: To monitor trends in exploitation, mortality, and movement of the walleye population in Saginaw Bay. To document age structure and growth rate of walleyes comprising the Tittabawassee River spawning run of walleye.

Summary: A total of 2,886 walleyes were tagged and released at the annual tagging operation on the Tittabawassee River in 2007. Tag returns from that effort are still being collected. Tag return data from the 2006 operation are being analyzed to generate updated estimates of total annual mortality and exploitation rate. Age analysis of the 2006 spawning run (tagged fish) indicates strong recruitment from the 2003 year class.

Findings: Jobs 1, 2, and 3 were scheduled for 2006-07, and progress is reported below.

Job 1. Title: Tag walleyes.—A total of 2,886 walleyes were tagged and released in the annual tagging operation at the Dow Dam location on the Tittabawassee River in 2007. Aging of bony structures is still proceeding for specimens collected in 2007. In 2006 the strong 2003 year class contributed large numbers of age-3 male walleyes in the spawning run (Table 1). There were few females for that year class but they were most likely still sexually immature during the spring of 2006. On the whole, the mean age of the spawning run dropped in 2006 reflecting the stronger recruitment beginning in 2003. It is expected that this trend will continue on for some years.

Job 2. Title: Process tag returns and analyze data.—Tags returned by anglers were cataloged for 2006. Analysis of survival and mortality rates via the ESTIMATE program is under way for 2006 tag returns but was not available in time for this report. Cataloging of tag returns for 2007 is also underway.

Job 3. Title: Prepare annual, final, and other reports.—This performance report summarizes data from 2006 and 2007, and fulfills the requirements of Job 3.

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Date: September 30, 2007

Table 1.—Age composition (percent) of walleyes sampled from the Tittabawassee River (Dow Dam) during spring electrofishing, 1995–2006.

Year sex	Age														Mean age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14+	
1995															
Female	–	–	–	9.4	53.1	13.4	9.1	7.1	3.9	2.4	1.2	0.4	–	–	5.8
Male	–	–	1.3	9.0	20.5	21.0	12.7	14.0	12.5	7.6	0.7	0.4	0.2	–	6.7
1996															
Female	–	–	–	0.2	9.1	18.4	22.6	13.1	12.6	15.9	6.9	1.3	–	–	7.8
Male	–	–	0.6	0.8	6.3	16.1	18.9	21.9	18.4	13.0	3.1	0.9	–	–	7.8
1997															
Female	–	–	0.4	4.1	1.3	11.8	26.8	22.9	12.4	8.4	7.1	4.9	–	–	7.9
Male	–	–	–	1.5	0.3	15.2	23.6	27.3	16.1	9.2	4.0	2.0	–	0.6	7.9
1998															
Female	–	–	1.7	22.8	11.0	6.6	11.3	19.6	12.8	7.3	4.0	2.7	0.3	–	7.0
Male	–	–	6.8	9.3	3.4	4.8	16.4	22.7	17.7	10.3	6.2	1.5	0.9	–	7.6
1999															
Female	–	–	0.4	8.0	13.3	4.9	4.5	11.4	21.2	18.6	9.8	6.8	0.4	0.4	8.3
Male	–	0.6	1.7	13.2	8.5	5.2	7.4	23.5	19.8	12.4	4.5	1.2	0.8	–	7.6
2000															
Female	–	–	–	0.6	11.2	14.9	10.6	4.3	13.0	20.5	13.7	8.1	2.5	–	8.7
Male	–	4.4	11.7	2.2	9.0	11.4	5.8	8.2	21.8	14.1	8.3	2.5	0.6	–	7.4
2001															
Female	–	–	2.7	7.5	5.8	8.4	13.3	8.0	9.7	15.5	14.6	11.5	2.2	0.9	8.6
Male	–	–	25.4	9.5	3.0	9.1	10.5	11.0	14.2	9.5	5.4	1.9	0.5	–	6.6
2002															
Female	–	–	–	16.5	38.0	15.2	9.5	3.8	4.4	3.8	3.8	2.5	1.9	0.6	6.3
Male	–	–	0.8	31.4	28.9	7.1	7.9	7.5	2.9	7.1	4.2	0.8	1.3	–	6.0
2003															
Female	–	–	–	4.5	25.9	17.7	9.1	10.7	9.1	6.6	8.2	5.8	1.6	0.8	7.4
Male	–	1.2	5.5	13.1	26.2	17.7	12.8	11.9	4.9	4.0	2.0	0.6	–	–	6.1
2004															
Female	–	–	0.3	10.5	28.0	28.6	11.0	3.7	5.1	5.4	3.7	2.5	0.8	0.4	6.5
Male	–	–	9.7	6.3	16.2	25.2	13.3	11.7	4.5	6.5	3.8	1.8	0.7	0.4	6.6
2005															
Female	–	–	–	14.2	18.1	30.3	13.6	6.2	5.7	3.7	1.7	3.1	2.3	1.1	6.6
Male	–	–	6.1	6.1	13.3	26.1	11.2	7.9	8.5	8.1	3.8	1.6	1.1	–	6.6
2006															
Female	–	2.1	0.5	10.9	36.5	20.8	10.4	7.3	5.2	3.6	0.5	0.5	1.0	0.5	6.0
Male	0.2	–	33.8	15.5	11.9	14.5	9.5	6.4	4.5	1.4	1.0	1.2	–	–	5.1