

STUDY PERFORMANCE REPORT

State: Michigan

Project No.: F-81-R-4

Study No.: 462

Title: Charter boat harvest and effort from Michigan waters of the Great Lakes

Period Covered: October 1, 2002 to September 30, 2003

Study Objectives: To obtain a continuous annual record of charter boat fishing effort, harvest and harvest rate in Michigan waters of the Great Lakes. To determine the ratio of resident to non-resident charter anglers. To provide a measure of lamprey occurrence on lake trout and chinook salmon to the USFWS.

Summary: This report will present results for the 2002 season. Similar data are being collected for the 2003 season; these will be summarized in next year's progress report.

MDNR Charlevoix Fisheries Research Station mailed daily catch reports, instructions, and grid maps of the Great Lakes to charter fishing operators before the start of the 2002 angling season. During the season, charter boat operators returned monthly reports to Charlevoix, where staff entered the data into computer files. Charlevoix staff sent post card or certified mail notification to delinquent charter operators, and found that 93% of all charter operators complied with State-mandated reporting requirements by the end of the season. Compliance was similar to 2001. Charlevoix staff used two major methods to share study results: written reports of harvest summaries, by Great Lake, were mailed to all charter operators in April, 2003, and local harvest was reported at charter angler meetings.

In 2002, charter anglers spent 17,039 more hours fishing than they did in 2001. Of the 75,716 charter anglers who participated in 17,437 excursions in 2002, 25% were non-residents, which did not differ significantly from 2001. In 2002, charter anglers harvested 26,000 more fish (total = 230,000); specifically more yellow perch and chinook salmon, and less walleye and rainbow trout than they did in 2001. Changes in the harvest of other species were less significant. In 2002, sea lamprey occurrence on chinook salmon and lake trout harvested by charter anglers from Lake Michigan reached its highest level since 1990. Occurrence on lake trout in Lake Michigan is now comparable to Lake Huron.

Charter boat harvest data from the 2003 fishing season are currently being entered into the database. The database now contains 14 consecutive years of data.

Findings: Jobs 1 through 4 were scheduled for 2002-03, and progress is reported below.

Job 1. Title: Distribute data forms.—Charlevoix staff mailed reporting forms, instructions and grid maps to approximately 500 charter operators in March, 2003. With these mailings, we reminded operators that they were required by law to complete the form every time they fished, and to mail monthly reports to Charlevoix MDNR by the tenth day of the following month.

Job 2. Title: Data entry and compliance.—Charlevoix and Lansing staff entered data on 17,437 charter fishing excursions that were reported for the 2002 season. If forms were incomplete, we

returned them to the charter operator with an explanation for the return and a request for completion. Data entry continues at this time for the 2003 season.

Charlevoix staff sent post-card notices to charter boat operators who had not filed a report for the previous month. The first notice was sent after an operator was delinquent for 10 days; the second after 30 days. During 2002, an average of 38% of charter operators was delinquent for 10 days; 23% for at least 30 days. If the first two notices did not elicit a response, Charlevoix staff sent a final notice through certified mail. These charter operators were told that this would be their last notice. By the end of December 2002, 93% of all charter operators had complied with the law; 7% did not comply. Compliance in 2002 did not differ significantly from 2001.

Beginning in 2003, Charlevoix staff increased their level of coordination with Law Enforcement to identify the reasons for noncompliance. This enabled Charlevoix staff to identify those operators who failed to submit forms for acceptable reasons (e.g., stopped fishing during the middle of the season); therefore reducing the percentage of noncompliant operators. Furthermore, the coordination effort enabled Charlevoix staff to identify, and add, operators who were absent from the database, therefore improving the accuracy of effort and harvest totals for the following year. MDNR's Law Enforcement Division handled all remaining delinquent cases, where the penalty of loss of inspection certificates was more probable.

Job 3. Title: Quality control and education.—Charlevoix staff made several presentations at Sea Grant charter boat workshops, MDNR Citizen's Advisory Meetings, and Charter Boat Association Meetings. These workshops and meetings gave staff the opportunity to (1) share local and lake-wide fishing data; (2) educate charter operators about the importance of accurate and timely data reporting, how to interpret results, and how data are used to address important management concerns; (3) address questions and get feedback about the program; and (4) promote positive and trusting relationships with MDNR.

Job 4. Title: Compile data and write annual reports.—A total of 17,437 Great Lake charter excursions took place during 2002. Data from these excursions are summarized, by lake, in Tables 1 through 5. They are also presented in a summary report entitled *Charter Boat Catch and Effort from the Michigan Waters of the Great Lakes, 2002*. Copies of this report, as mandated by law, were mailed to all charter operators during April 2003. Two MDNR Fisheries Technical Reports, *Charter boat catch and effort from the Michigan waters of the Great Lakes 2000* (Rakoczy and Wesander-Russell 2003) and *Charter boat catch and effort from the Michigan waters of the Great Lakes 2001* (Rakoczy and Wesander-Russell 2003), are nearing completion.

In 2002, charter anglers spent 463,537 hours fishing Michigan waters of the Great Lakes, 17,039 more hours than they did in 2001. Of these total hours, 68% occurred on Lake Michigan, 17% on Lake Huron, 11% on Lake Erie, 2% on Lake Superior, and 2% on Lake St. Clair. Of the 75,716 charter anglers who participated in 17,437 excursions, 25% were non-residents, which did not differ significantly from 2001.

In 2002, charter anglers harvested a total of 68,544 yellow perch, 61,723 chinook salmon, 40,392 walleye, 22,498 lake trout, 17,321 coho salmon, 11,707 rainbow trout, and 2,565 brown trout. They harvested more yellow perch and chinook salmon, and less walleye and rainbow trout than they did in 2001. Harvest of other species differed less significantly between 2001 and 2002. In 2002, charter anglers had higher harvest rates of coho salmon, chinook salmon and brown trout compared to 2001; whereas harvest rates of rainbow trout and lake trout decreased.

In 2002, sea lamprey occurrence on chinook salmon and lake trout harvested by charter anglers from Lake Michigan reached its highest level since 1990, at 0.8 lamprey/chinook and 2.2 lamprey/lake

trout (Table 6). Sea lamprey occurrence on chinook salmon harvested by charter anglers from Lake Michigan is still much lower than Lake Huron; however, occurrence on lake trout is now comparable to Lake Huron. Sea lamprey occurrence on both species is still well below the level of occurrence that occurred in Lake Huron prior to the mid-1990s (Table 6).

Literature cited:

Rakoczy G. P., and D. Wesander-Russell. 2003. Charter boat catch and effort from the Michigan waters of the Great Lakes, 2000. Michigan Department of Natural Resources Fisheries Technical Report, Ann Arbor, in review.

Rakoczy G. P., and D. Wesander-Russell. 2003. Charter boat catch and effort from the Michigan waters of the Great Lakes, 2001. Michigan Department of Natural Resources Fisheries Technical Report, Ann Arbor, in review.

Prepared by: Sarah A. Thayer
Dated: September 30, 2003

Table 1.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Lake Michigan, 2002.

Species	Total catch per		Month							Season
	hour	excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.050	1.316	1,017	2,278	2,462	1,267	5,649	2,984	32	15,689
Chinook salmon	0.161	4.244	141	5,498	4,656	11,280	21,564	7,319	147	50,605
Rainbow trout	0.034	0.893	265	505	2,331	4,738	2,170	362	277	10,648
Brown trout	0.007	0.194	929	606	126	285	308	52	2	2,308
Lake trout	0.034	0.885	23	1,330	2,712	3,363	2,978	141	0	10,547
Yellow perch	0.033	0.862	261	595	2,388	2,609	3,071	1,313	46	10,283
Walleye	0.005	0.139	3	190	368	235	316	227	320	1,659
Other	0.002	0.059	13	445	28	109	45	51	11	702
Lamprey on:										
Chinook salmon			0	59	69	104	149	22	2	405
Lake trout			0	21	69	64	73	1	0	228
Angler hours			7,624	29,831	46,130	78,644	109,552	36,939	4,812	313,531
Angler trips			1,223	4,912	7,447	13,079	18,223	6,456	698	52,038
Anglers										
Resident			821	3,301	5,211	9,315	13,217	4,733	297	36,895
Nonresident			402	1,611	2,239	3,764	5,006	1,723	401	15,146
Charter excursions			251	1,067	1,632	2,926	4,263	1,569	216	11,924

Table 2.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Lake Huron, 2002.

Species	Total catch per		Month							Season
	hour	excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.021	0.450	16	173	309	378	333	75	10	1,294
Chinook salmon	0.182	3.848	34	784	1,133	3,256	4,753	1,059	41	11,060
Rainbow trout	0.016	0.342	73	64	197	367	224	49	8	982
Brown trout	0.004	0.088	15	9	33	93	86	16	0	252
Lake trout	0.127	2.686	5	686	2,622	1,957	2,285	166	0	7,721
Yellow perch	0.009	0.181	0	0	2	111	61	345	0	519
Walleye	0.023	0.477	0	37	240	800	291	3	0	1,371
Other	0.011	0.233	0	9	277	315	46	22	0	669
Lamprey on:										
Chinook salmon			1	33	83	182	149	19	0	467
Lake trout			0	15	45	26	26	1	0	113
Angler hours			965	5,000	10,658	18,727	20,076	5,232	216	60,873
Angler trips			141	889	1,863	3,284	3,543	969	42	10,731
Anglers										
Resident			131	844	1,702	2,803	3,116	810	35	9,441
Nonresident			10	45	161	483	427	159	7	1,292
Charter excursions			53	227	501	872	950	255	16	2,874

Table 3.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Lake Superior, 2002.

Species	Total catch per		Month							Season
	hour	excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.022	0.784	0	25	180	79	31	21	1	337
Chinook salmon	0.004	0.135	0	13	11	11	16	7	0	58
Rainbow trout	0.003	0.093	0	3	19	3	14	0	1	40
Brown trout	0.000	0.012	0	0	2	2	0	1	0	5
Lake trout	0.276	9.837	0	126	974	1,427	1,279	420	4	4,230
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	7	6	6	0	0	19
Angler hours			0	453	3,917	5,110	4,432	1,394	15	15,320
Angler trips			0	67	507	680	637	210	3	2,104
Anglers										
Resident			0	38	264	341	351	131	2	1,127
Nonresident			0	29	243	339	286	79	1	977
Charter excursions			0	17	92	141	131	47	2	430

Table 4.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Lake Erie, 2002.

Species	Total catch per		Month							Season
	hour	excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.000	0.001	0	0	1	0	0	0	0	1
Chinook salmon	0.000	0.000	0	0	0	0	0	0	0	0
Rainbow trout	0.001	0.020	2	4	7	4	20	0	0	37
Brown trout	0.000	0.000	0	0	0	0	0	0	0	0
Lake trout	0.000	0.000	0	0	0	0	0	0	0	0
Yellow perch	0.979	25.825	1	187	1,432	726	16,346	24,086	5,076	47,854
Walleye	0.740	19.512	306	3,424	21,415	9,903	480	746	0	36,274
Other	0.024	0.625	1	334	538	179	37	28	42	1,159
Lamprey on:										
Chinook salmon			0	0	1	0	0	0	0	1
Lake trout			0	0	0	0	0	0	0	0
Angler hours			541	5,983	22,840	11,291	3,392	4,304	713	49,063
Angler trips			76	1,046	4,410	2,128	649	864	151	9,324
Anglers										
Resident			43	939	3,913	1,826	560	717	130	8,128
Nonresident			33	107	497	302	89	147	21	1,196
Charter excursions			26	229	857	422	131	169	29	1,863

Table 5.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on the St. Clair system (Lake St. Clair, St. Clair River, and the Detroit River), 2002.

Species	Total catch per		Month							Season
	hour	excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.000	0.000	0	0	0	0	0	0	0	0
Chinook salmon	0.000	0.000	0	0	0	0	0	0	0	0
Rainbow trout	0.000	0.000	0	0	0	0	0	0	0	0
Brown trout	0.000	0.000	0	0	0	0	0	0	0	0
Lake trout	0.000	0.000	0	0	0	0	0	0	0	0
Yellow perch	1.038	27.775	0	26	836	1,870	1,923	3,250	1,983	9,888
Walleye	0.127	3.390	275	135	185	195	401	16	0	1,207
Other	0.277	7.404	1	41	460	997	780	309	48	2,636
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	0	0	0	0	0	0
Angler hours			540	366	1,426	2,275	2,383	1,711	826	9,527
Angler trips			90	75	237	360	370	263	136	1,531
Anglers										
Resident			54	30	186	281	286	250	125	1,212
Nonresident			36	47	51	79	90	18	11	332
Charter excursions			26	17	52	81	89	59	32	356

Table 6.—Sea lamprey incidence (lamprey per 100 fish) for chinook salmon and lake trout harvested by the charter fishery in the Michigan waters of the Great Lakes, 1990-2002.

Species/Year	Lake		
	Michigan	Huron	Superior
Chinook salmon			
1990	0.5	18.6	0.0
1991	0.3	13.9	8.0
1992	0.2	13.6	0.0
1993	0.1	7.6	0.0
1994	0.3	7.1	0.0
1995	0.3	6.2	3.0
1996	0.1	3.9	0.0
1997	0.2	4.7	0.0
1998	0.4	5.2	0.0
1999	0.2	4.6	0.0
2000	0.4	7.3	1.1
2001	0.5	4.6	0.0
2002	0.8	4.2	0.0
Lake trout			
1990	1.8	6.6	1.8
1991	1.2	5.7	1.6
1992	0.8	4.6	0.8
1993	0.6	2.1	0.5
1994	0.6	3.3	1.1
1995	1.0	2.7	0.7
1996	0.7	1.9	1.0
1997	1.1	3.0	0.6
1998	1.1	2.1	0.5
1999	1.2	1.8	0.5
2000	1.3	2.2	0.4
2001	1.3	2.0	0.7
2002	2.2	1.5	0.4