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Charter Boat Catch and Effort from the Michigan Waters of the Great Lakes, 1995

Gerald P. Rakoczy



**MICHIGAN DEPARTMENT OF NATURAL RESOURCES
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Charter Boat Catch and Effort from the Michigan Waters of the Great Lakes, 1995

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Abstract.—Legislation enacted in 1992 by the State of Michigan requires all charter boat operators to report sportfishing catch and effort to the Michigan Department of Natural Resources. The objective of the catch and activity reporting system is to obtain a continuous annual record of the number, type, and location of fish harvested by charter boat clients in Michigan.

Ninety-two percent of the 510 charter fishing operators complied with the law by returning their completed catch reporting forms in 1995. These operators reported making 15,227 charter fishing excursions during April through October. The total number of charter excursions increased by 514 (+3%) in 1995 compared to 1994. Approximately 429,000 angler hours were spent fishing by some 72,100 charter clients. The distribution of charter fishing excursions was: 66% Lake Michigan, 17% Lake Huron, 12% Lake Erie, 3% Lake Superior, and 2% Lake St. Clair. Over 247,000 fish were reported harvested. The harvest was composed of about 123,000 yellow perch, 42,100 walleye, 39,200 lake trout, 21,200 chinook salmon, 10,500 rainbow trout, 7,100 coho salmon, and 3,200 brown trout.

Michigan's charter boat industry increased from 250 operations in 1979 to nearly 900 in 1989. Since the late 1980s, the number of charter boats used for sport fishing excursions on Michigan's Great Lakes waters has declined to 510. The charter fishing industry provides the State of Michigan each year with significant economic benefits. For example, 239,000 clients spent an estimated \$21 million in addition to charter fees in 1985, and the total statewide investment by charter boat firms in the same year was estimated to exceed \$30 million (Mahoney et al. 1986).

The Michigan Legislature in 1992 passed Act 115, Public Acts of 1992. This legislation

re-authorized and strengthened the law, first enacted during 1989 (Act 22, Public Acts of 1989), which required the reporting of sport catch and effort by the charter fishing industry. The legislation was supported by both Michigan Charter Boat Association (MCBA), an industry representative, and Michigan Department of Natural Resources (MDNR). Among other provisions, the law provides more stringent penalties for charter fishing operators who are delinquent by more than 60 days with their catch reports. Also, the law requires that all operators maintain on board an up to date daily log of their catch and fishing activity.

The objective of the catch reporting system is to obtain a continuous annual record of fishing effort and the number, type, and location of fish harvested by charter boat anglers in Michigan. These data will aid MDNR's Great Lakes fishery management efforts by providing valuable trend information about charter harvest and catch rates, which reflect the status of fish stocks important to the industry. The data will also allow MCBA to monitor the health and welfare of its industry.

Methods

The Michigan Charter Boat Daily Catch Report form (PR8206) was developed in 1989 by a committee made up of two members each from MDNR and MCBA (Figure 1). Forms and grid maps of the Great Lakes were mailed to 510 known charter operators during March 1995. Charter operators were identified from previous years' lists of reporting operators and from Sport Trolling Licenses purchased from Law Enforcement Division. Charter operators who used their vessels for fishing were informed that they were required by law to complete the form each time they fished. A form was to be mailed by the tenth of each month following the month of fishing to MDNR's Charlevoix Fisheries Station.

The data form requires the following information: an assigned identification number for each charter boat, lake, date fished, port, grid, hours fished, number of resident and nonresident anglers, catch (number) of major species, and number of sea lamprey seen attached to chinook salmon or lake trout. Space was also provided on the form for comments or observations.

Completed data forms returned to Charlevoix Fisheries Station were logged, coded by port fished, and entered on computer. Incomplete forms were logged then returned to the charter operator with a letter stating why the report was returned.

Each month (June through October), postcard notices were sent to charter operators who had not filed a report for the previous month. Two notices were sent each month, the

first after an operator was delinquent for 10 days, and the second after 30 days.

In December 1995, operators who had not filed reports for one or more months during the period May through September were sent letters via certified mail. These letters informed the operator that this would be the last notice he or she would receive. If the recipient did not respond in writing within 14 days of receipt of this notice, his or her name was submitted to MDNR's Law Enforcement Division recommending non-issuance of an inspection certificate for the 1996 season.

Three measures of fishing effort were summarized: angler hours, angler trips, and charter excursions. Angler hours were based upon total hours fished (dock to dock) by each angler. An angler trip was one completed fishing outing by one individual. A charter excursion was one completed boat trip. For example, if a charter operator took four anglers fishing for 6 hours, total fishing effort would be 24 angler hours, 4 angler trips, and 1 charter excursion. Tables summarizing catch and effort for selected ports around the Great Lakes are contained in the appendices.

Data regarding number of sea lamprey observed by charter operators were collected at request of the U.S. Fish and Wildlife Service's (USFWS) Sea Lamprey Control Station at Marquette, Michigan. These data will be used by USFWS as an index of sea lamprey abundance.

Results

Compliance

During the 1995 fishing season, an average of 70% of all charter boat operators complied with the law by submitting their catch reports by the due date, while 77% submitted reports within 30 days of the due date. Monthly rate of compliance in 1995 was 10% greater as compared to 1994. By the end of the 1995 season, 92% of all charter operators had complied with the law. Final compliance rate for 1995 was 5% less than 1994 (Rakoczy and Svoboda 1995).

Catch and effort

Charter operators submitted reports on 15,227 charter excursions during April through October, 1995 on lakes Michigan, Huron, Erie, Superior and St. Clair (Tables 1 through 5). The total number of charter excursions in 1995 increased by 514 (+3%) compared to 1994 (Rakoczy and Svoboda 1995). Increases in the number of charter excursions in 1995 as compared to 1994 occurred on all lakes, except Lake Michigan. The greatest increases occurred on lakes Erie (+19%) and Superior (+13%). The decline in the number of Lake Michigan charter excursions in 1995 as compared to 1994 was slight (-1%). The distribution of charter fishing effort (excursions) by lake was: 66% Lake Michigan, 17% Lake Huron, 12% Lake Erie, 3% Lake Superior, and 2% Lake St. Clair. The distribution of charter fishing effort by lake in 1995 was very similar to previous years.

A total of 429,160 hours were spent fishing by 72,142 charter anglers in Michigan's waters and tributaries of the Great Lakes (Tables 1 through 5). The total number of charter anglers in 1995 increased by 6,500 (+10%) compared to 1994. Even Lake Michigan, which was the only lake that had a decline in charter excursions in 1995 compared to 1994, had more charter anglers (+8%) and hours fished (+4%) in 1995 than the previous year. Thirty percent of all charter clients were not residents of Michigan. Lake Superior charter operators had the greatest percentage of nonresident clients (53%; Table 4), while Lake St. Clair charter captains had the lowest percentage (3%; Table 5).

A total of 247,000 fish were reported harvested in all lakes. Lake Michigan accounted for 63% of all fish harvested, while lakes Erie and Huron accounted for 25% and 6%, respectively, of the total harvest. The most numerous species in the harvest was yellow perch (123,000) which accounted for 50% of the total harvest. Numbers of other species harvested were: 42,100 walleye (17%), 39,200 lake trout (16%), 21,200 chinook salmon (9%), 10,500 rainbow trout (4%), 7,100 coho salmon (3%), and 3,200 brown trout (1%). The "other" species category was less than 1% of the total reported catch. Since other species are not

identified on the catch reporting form, the actual composition of this category is unknown.

In general, the numbers of yellow perch (+36%) and walleye (+18%) harvested increased during 1995 compared to 1994. The harvest of yellow perch increased by 33% on Lake Michigan and by 88% on Lake Erie compared to the previous year. The walleye harvest on Lake Erie increased by 24% compared to 1994. In the salmonine species complex, the numbers of chinook salmon (+42%) and lake trout (+7%) harvested during 1995 increased compared to 1994. The numbers of coho salmon (-10%), rainbow trout (-32%) and brown trout (-21%) decreased compared to the previous year. Most of the increase in the chinook harvest occurred on lakes Michigan (+30%) and Huron (+76%) during 1995. Lake Michigan was responsible for the overall decrease in the harvest of coho salmon, rainbow trout, and brown trout during 1995. Lake Huron anglers catch of rainbow (+159%) and brown trout (+16%) increased in 1995 compared to 1994.

Catch rates (fish per 100 angler hours) by Lake Michigan charter anglers in 1995 as compared to 1994 decreased for coho salmon (-15%), rainbow trout (-42%) and brown trout (-36%) (Table 6). Catch rates for chinook salmon increased (+25%) for the first time since 1990 on Lake Michigan. Lake trout catch rates were virtually unchanged. On Lake Huron, catch rates increased for chinook salmon (+41%) and rainbow trout (+100%) compared to the previous year. Catch rates for brown trout and lake trout were virtually unchanged in Lake Huron during 1995 as compared to 1994. Lake trout are the most important salmonine in the charter catch from Lake Superior. Catch rates for lake trout on Lake Superior have been virtually unchanged during the past six seasons.

Walleye play an important role in charter fisheries on lakes Erie, Huron, and St. Clair. Catch rates for walleye by charter clients increased on lakes St. Clair (+26%) and Erie (+18%) during 1995 as compared to 1994 (Table 7). Catch rates for walleye on Lake Huron declined to the lowest level recorded since 1990.

Most (80%) charter excursions which took place on Michigan's Great Lakes waters during 1995 were aimed at the various species of salmonines. In general, the total catch per charter excursion for all five species of salmonines combined was virtually unchanged in 1995 compared to 1994 at the Lake Michigan ports of St. Joseph/Benton Harbor, Grand Haven, Ludington and Frankfort/Elberta (Table 8). Salmonine catch rates increased at Manistee, while they decreased at Leland in 1995 compared to the previous year. Catch rates for salmonines increased at four of five Lake Huron ports during 1995. On Lake Superior, salmonine catch rates increased at Marquette and Ontonagon during 1995, but decreased at Black River Harbor as compared to 1994.

As has been the case in previous years (1990-94), numbers of sea lamprey attached to chinook salmon and lake trout, were much

higher on Lake Huron than the other Great Lakes (Table 9). Numbers of sea lamprey attached per 100 lake trout harvested from Lake Huron in 1995 was 2.7, as compared to 1.0 for Lake Michigan and 0.7 for Lake Superior. Charter captains also reported 6.2 lamprey per 100 chinook salmon harvested on Lake Huron during 1995 as compared to 0.3 for Lake Michigan and 3.0 for Lake Superior. The Lake Superior figure for 1995 represented only one sea lamprey.

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES
MICHIGAN CHARTER BOAT DAILY CATCH REPORT

By authority of Act 244, P.A. 1986, as amended and Act 22, P.A. 1989. Submittal required.
 Failure to comply with the provisions of these acts will prohibit issuance of an Inspection Certificate for the following season.

IDENTIFICATION NO.	LAKE	MONTH	YEAR
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(INSTRUCTIONS ON REVERSE SIDE)

Date	Port Fished	Grid Fished	Hours Fished (Dock to Dock)	No. Anglers		Daily Catch								No. Lamprey seen on		
				Res.	Non Res.	COH	CHS	RBT	BNT	LAT	YEP	WAE	OTH	CHS	LAT	
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2																
3																
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COMMENTS _____

SIGNATURE _____ DATE _____

PR 8206 (Rev. 4/89)

Figure 1.—Michigan charter boat catch report form.

Table 1.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for Lake Michigan charter boats, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0223	0.6735	639	2,814	548	258	1,478	962	33	6,732
Chinook salmon	0.0496	1.4993	74	2,875	1,712	2,426	5,426	2,392	82	14,987
Rainbow trout	0.0301	0.9098	201	2,250	1,872	1,772	1,449	1,135	415	9,094
Brown trout	0.0074	0.2228	637	403	137	442	478	82	48	2,227
Lake trout	0.1021	3.0885	40	2,929	6,062	10,890	10,111	835	6	30,873
Yellow perch	0.3013	9.1156	52,123	14,601	3	13,622	7,998	2,702	71	91,120
Walleye	0.0022	0.0677	12	3	146	158	266	88	4	677
Other	0.0017	0.0505	3	7	39	39	93	77	247	505
Lamprey on chinook salmon			0	10	6	13	15	0	0	44
Lamprey on lake trout			2	42	73	101	78	4	0	300
Angler hours			20,106	42,679	41,429	72,769	91,978	28,948	4,524	302,433
Angler trips			3,750	7,026	6,470	12,305	15,016	5,001	628	50,196
Anglers										
Resident			2,535	3,979	3,926	8,044	9,737	3,421	251	31,893
Nonresident			1,215	3,047	2,544	4,261	5,279	1,580	377	18,303
Charter excursions			390	1,131	1,500	2,476	3,213	1,116	170	9,996

Table 2.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for Lake Huron charter boats, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0011	0.0215	7	13	6	11	10	9	0	56
Chinook salmon	0.1173	2.3851	106	367	799	1,735	2,347	789	56	6,199
Rainbow trout	0.0258	0.5256	58	95	184	395	535	95	4	1,366
Brown trout	0.0190	0.3871	146	139	112	323	234	40	12	1,006
Lake trout	0.0663	1.3474	1	363	964	1,150	896	128	0	3,502
Yellow perch	0.0370	0.7518	24	10	289	665	340	507	119	1,954
Walleye	0.0350	0.7110	44	35	52	970	659	88	0	1,848
Other	0.0065	0.1312	0	7	17	104	148	62	3	341
Lamprey on chinook salmon			5	16	49	100	171	40	1	382
Lamprey on lake trout			0	11	25	30	21	8	0	95
Angler hours			1,964	4,386	7,313	16,910	16,371	5,532	381	52,857
Angler trips			330	753	1,301	2,998	2,913	1,042	69	9,406
Anglers										
Resident			319	693	1,155	2,562	2,493	917	56	8,195
Nonresident			11	60	146	436	420	125	13	1,211
Charter excursions			101	217	361	781	817	300	22	2,599

Table 3.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for Lake Erie charter boats, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Chinook salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Rainbow trout	0.0001	0.0034	0	5	1	0	0	0	0	6
Brown trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Lake trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Yellow perch	0.5167	13.4368	9	129	990	424	1,856	18,313	2,210	23,931
Walleye	0.8242	21.4346	157	5,787	21,472	9,941	759	59	0	38,175
Other	0.0153	0.3975	0	78	409	160	13	48	0	708
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	0	0	0	0	0	0
Angler hours			407	8,426	22,804	9,924	1,458	2,840	457	46,316
Angler trips			64	1,530	4,342	1,896	282	526	89	8,729
Anglers										
Resident			58	1,364	3,839	1,687	252	470	89	7,759
Nonresident			6	166	503	209	30	56	0	970
Charter excursions			12	327	855	390	66	113	18	1,781

Table 4.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for Lake Superior charter boats, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0170	0.6097	0	17	166	73	42	15	1	314
Chinook salmon	0.0018	0.0641	0	6	16	2	8	1	0	33
Rainbow trout	0.0029	0.1049	0	3	18	15	17	1	0	54
Brown trout	0.0003	0.0117	0	1	5	0	0	0	0	6
Lake trout	0.2622	9.4039	1	95	1,034	1,842	1,573	262	36	4,843
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0005	0.0175	0	0	9	0	0	0	0	9
Other	0.0002	0.0058	0	0	0	0	3	0	0	3
Lamprey on chinook salmon			0	0	1	0	0	0	0	1
Lamprey on lake trout			0	0	7	13	13	0	0	33
Angler hours			48	347	4,093	7,115	5,689	1,050	126	18,468
Angler trips			6	52	532	907	761	130	23	2,411
Anglers										
Resident			0	39	314	420	302	48	1	1,124
Nonresident			6	13	218	487	459	82	22	1,287
Charter excursions			1	18	117	185	163	27	4	515

Table 5.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Lake St. Clair and the St. Clair River, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Chinook salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Rainbow trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Brown trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Lake trout	0.0024	0.0655	0	0	0	22	0	0	0	22
Yellow perch	0.6691	18.0923	0	527	859	1,254	1,094	1,039	1,306	6,079
Walleye	0.1553	4.1994	73	67	323	597	310	41	0	1,411
Other	0.3465	9.3690	3	23	862	1,074	695	466	25	3,148
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	0	0	0	0	0	0
Angler hours			220	525	1,963	2,901	1,815	1,205	457	9,086
Angler trips			36	107	295	448	267	174	73	1,400
Anglers										
Resident			32	107	292	434	244	174	73	1,356
Nonresident			4	0	3	14	23	0	0	44
Charter excursions			9	23	69	109	66	41	19	336

Table 6.-Catch rates (fish per 100 angler hours) by charter anglers for salmonines on lakes Michigan, Huron and Superior during 1990-95.

Species	Michigan					Huron					Superior							
	1990	1991	1992	1993	1994	1995	1990	1991	1992	1993	1994	1995	1990	1991	1992	1993	1994	1995
Coho salmon	3.9	2.8	3.4	4.5	2.6	2.2	0.2	0.2	0.2	0.3	0.3	0.1	1.2	3.2	1.3	1.0	1.6	1.7
Chinook salmon	7.4	7.0	4.9	4.0	4.0	5.0	6.0	6.4	7.2	8.3	11.7	0.3	0.4	0.3	0.3	0.1	0.2	
Rainbow trout	4.0	7.2	6.5	5.0	5.2	3.0	0.3	0.6	0.7	1.4	1.3	2.6	0.3	0.3	0.1	0.2	0.3	0.3
Brown trout	0.6	0.8	0.4	0.7	1.1	0.7	0.1	0.2	0.7	1.7	2.1	1.9	0.1	0.2	0.1	0.0	0.1	<0.1
Lake trout	8.4	8.7	7.6	9.7	10.4	10.2	9.8	7.9	6.6	4.3	6.3	6.6	28.5	27.9	25.5	28.2	25.3	26.2

Table 7.-Catch rates (fish per 100 angler hours) by charter anglers for yellow perch and walleye on Lakes Huron, St. Clair and Erie during 1990-95.

Species	Huron					St. Clair					Erie							
	1990	1991	1992	1993	1994	1995	1990	1991	1992	1993	1994	1995	1990	1991	1992	1993	1994	1995
Yellow perch	9.2	7.4	6.3	4.0	4.9	3.7	13.8	16.8	15.1	40.4	85.5	66.9	29.4	34.1	43.3	43.9	28.7	51.7
Walleye	5.1	7.1	6.7	7.4	6.7	3.5	32.4	20.4	12.5	18.4	12.3	15.5	74.5	62.8	78.5	81.4	69.6	82.4

Table 8.—Total catch per excursion for all salmonines combined by charter anglers at various ports on lakes Michigan, Huron and Superior 1990-95.

Port	Year					
	1990	1991	1992	1993	1994	1995
Lake Michigan						
St. Joseph/Benton Harbor	7.3	8.7	7.3	8.1	7.7	7.7
Grand Haven	5.0	5.5	4.7	5.3	5.0	5.2
Ludington	9.3	11.1	8.4	8.8	7.4	7.2
Manistee	6.2	8.0	5.7	6.2	5.8	6.9
Frankfort/Elberta	7.1	7.5	5.8	6.6	6.2	6.7
Leland	7.2	9.5	9.0	6.9	9.1	8.6
Lake Huron						
Rogers City	3.2	3.3	2.5	3.9	5.2	6.6
Alpena	3.4	3.5	4.7	4.9	4.7	5.1
Oscoda	4.0	4.0	3.6	3.0	3.2	5.2
Harbor Beach	3.6	2.9	3.2	2.8	3.5	4.9
Port Sanilac	2.2	1.5	1.5	3.4	3.8	2.8
Lake Superior						
Marquette	10.9	10.9	11.4	10.9	8.3	11.2
Ontonagon	12.5	11.5	14.1	14.0	10.1	11.1
Black River Harbor	12.0	12.9	10.6	13.5	14.1	12.6

Table 9.–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, 1990-95.

Location	Chinook salmon						Lake trout					
	1990	1991	1992	1993	1994	1995	1990	1991	1992	1993	1994	1995
Lake Michigan	0.5	0.3	0.2	0.1	0.3	0.3	1.8	1.2	0.8	0.6	0.6	1.0
Lake Huron	18.6	13.9	13.6	7.6	7.1	6.2	6.6	5.7	4.6	2.1	3.3	2.7
Lake Superior	0.0	8.0	0.0	0.0	0.0	3.0	1.8	1.6	0.8	0.5	1.1	0.7

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Appendix 1.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Michigan City, Indiana, Lake Michigan (catch from Michigan waters only), 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.1098	3.5621	110	1,560	359	21	2	0	14	2,066
Chinook salmon	0.0140	0.4552	11	133	44	19	47	9	1	264
Rainbow trout	0.0712	2.3103	38	933	221	61	63	18	6	1,340
Brown trout	0.0005	0.0155	0	8	0	0	1	0	0	9
Lake trout	0.1747	5.6690	1	235	1,065	1,059	811	115	2	3,288
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0000	0.0000	0	0	0	0	0	0	0	0
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	4	9	4	4	0	0	21
Angler hours			279	5,471	4,745	4,426	3,355	503	41	18,820
Angler trips			42	793	713	685	513	82	9	2,837
Anglers										
Resident			1	37	5	13	2	10	0	68
Nonresident			41	756	708	672	511	72	9	2,769
Charter excursions			9	155	145	141	110	18	2	580

Appendix 2.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at New Buffalo, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0429	1.7213	0	96	9	0	0	0	0	105
Chinook salmon	0.0090	0.3607	0	5	0	8	6	3	0	22
Rainbow trout	0.0172	0.6885	0	22	10	10	0	0	0	42
Brown trout	0.0147	0.5902	0	1	2	0	33	0	0	36
Lake trout	0.0802	3.2131	0	22	75	39	60	0	0	196
Yellow perch	0.0012	0.0492	0	0	3	0	0	0	0	3
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0000	0.0000	0	0	0	0	0	0	0	0
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	1	0	0	0	0	0	1
Angler hours			0	403	733	462	787	60	0	2,445
Angler trips			0	51	77	59	83	6	0	276
Anglers										
Resident			0	16	0	4	0	0	0	20
Nonresident			0	35	77	55	83	6	0	256
Charter excursions			0	12	17	13	18	1	0	61

Appendix 3.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Benton Harbor/St. Joseph, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0456	1.5765	513	912	86	40	35	11	0	1,597
Chinook salmon	0.0364	1.2577	51	508	111	161	208	232	3	1,274
Rainbow trout	0.0338	1.1658	34	426	212	248	200	61	0	1,181
Brown trout	0.0072	0.2488	113	94	1	10	24	10	0	252
Lake trout	0.1008	3.4808	1	773	672	953	1,014	110	3	3,526
Yellow perch	0.0843	2.9131	1,767	0	0	878	274	32	0	2,951
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0001	0.0020	2	0	0	0	0	0	0	2
Lamprey on chinook salmon			0	0	1	0	1	0	0	2
Lamprey on lake trout			2	4	1	2	7	0	0	16
Angler hours			2,317	9,158	6,141	7,394	7,537	2,426	14	34,987
Angler trips			362	1,233	848	1,017	1,060	359	4	4,883
Anglers										
Resident			136	435	297	358	347	85	4	1,662
Nonresident			226	798	551	659	713	274	0	3,221
Charter excursions			85	250	174	211	214	77	2	1,013

Appendix 4.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on the St. Joseph River, 1995.

Species	Total catch per hour	Total catch per excursion	Month												Season		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Coho salmon	0.0006	0.0161	0	0	0	0	0	0	0	0	0	0	1	6	1	0	8
Chinook salmon	0.0092	0.2570	0	0	0	0	0	0	0	0	0	0	85	36	7	0	128
Rainbow trout	0.0840	2.3414	8	18	161	98	0	0	16	8	37	353	356	111	1166		
Brown trout	0.0134	0.3735	0	2	56	52	0	0	0	0	1	40	27	8	186		
Lake trout	0.0002	0.0060	0	0	0	0	0	0	0	0	0	1	0	2	3		
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0	0	0	0	0	0		
Walleye	0.0242	0.6747	22	29	11	0	0	113	75	40	6	0	11	29	336		
Other	0.0293	0.8173	0	0	21	0	0	21	14	49	47	247	26	3	407		
Angler hours			158	248	1,714	804	0	707	576	337	1,445	3,591	3,185	1,124	13,889		
Angler trips			19	31	239	116	0	86	74	41	191	472	398	143	1,810		
Anglers																	
Resident			2	5	56	39	0	26	22	10	55	144	85	26	470		
Nonresident			17	26	183	77	0	60	52	31	136	328	313	117	1,340		
Charter excursions			8	12	60	30	0	19	23	12	50	127	116	41	498		

Appendix 5.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at South Haven, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0004	0.0296	2	6	1	1	8	1	0	19
Chinook salmon	0.0040	0.3339	1	68	32	16	92	5	0	214
Rainbow trout	0.0013	0.1076	0	26	14	19	10	0	0	69
Brown trout	0.0002	0.0156	0	3	1	3	3	0	0	10
Lake trout	0.0157	1.2949	37	135	210	198	246	4	0	830
Yellow perch	1.6153	133.4275	50,193	14,351	0	10,885	7,671	2,426	1	85,527
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0001	0.0094	0	1	0	0	1	4	0	6
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	2	1	2	0	0	5
Angler hours			13,873	12,707	1,567	11,111	10,469	3,170	50	52,947
Angler trips			2,812	2,527	281	2,187	2,067	638	10	10,522
Anglers										
Resident			1,977	1,681	152	1,500	1,515	443	5	7,273
Nonresident			835	846	129	687	552	195	5	3,249
Charter excursions			155	120	61	128	141	35	1	641

Appendix 6.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Saugatuck, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0146	0.4760	8	172	22	5	28	43	0	278
Chinook salmon	0.0607	1.9795	9	315	159	129	367	177	0	1,156
Rainbow trout	0.0548	1.7877	1	685	105	84	54	115	0	1,044
Brown trout	0.0102	0.3339	120	22	13	10	15	15	0	195
Lake trout	0.1668	5.4366	1	544	465	841	1,241	83	0	3,175
Yellow perch	0.0838	2.7329	35	125	0	1,436	0	0	0	1,596
Walleye	0.0023	0.0736	10	0	4	14	15	0	0	43
Other	0.0002	0.0068	0	0	2	2	0	0	0	4
Lamprey on chinook salmon			0	1	0	1	0	0	0	2
Lamprey on lake trout			0	19	19	8	13	3	0	62
Angler hours			682	3,858	2,775	4,486	5,843	1,395	0	19,039
Angler trips			100	499	422	607	764	211	0	2,603
Anglers										
Resident			93	313	274	403	431	116	0	1,630
Nonresident			7	186	148	204	333	95	0	973
Charter excursions			22	110	100	138	165	49	0	584

Appendix 7.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Holland, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0058	0.1563	0	15	4	3	12	6	0	40
Chinook salmon	0.0654	1.7695	0	193	39	67	105	49	0	453
Rainbow trout	0.0189	0.5117	0	63	6	35	23	4	0	131
Brown trout	0.0036	0.0977	0	14	0	7	3	1	0	25
Lake trout	0.1568	4.2422	0	179	169	300	372	66	0	1,086
Yellow perch	0.0123	0.3320	0	0	0	33	52	0	0	85
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0003	0.0078	0	1	0	0	0	1	0	2
Lamprey on chinook salmon			0	0	0	1	0	0	0	1
Lamprey on lake trout			0	6	3	6	4	0	0	19
Angler hours			30	1,148	1,194	1,737	2,167	650	0	6,926
Angler trips			5	170	196	286	336	101	0	1,094
Anglers										
Resident			4	80	109	169	133	70	0	565
Nonresident			1	90	87	117	203	31	0	529
Charter excursions			1	40	45	67	81	22	0	256

Appendix 8.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Grand Haven, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0062	0.1547	0	22	6	10	88	74	0	200
Chinook salmon	0.0909	2.2707	1	1,267	365	309	582	411	1	2,936
Rainbow trout	0.0136	0.3403	0	33	35	140	126	106	0	440
Brown trout	0.0057	0.1431	2	52	8	39	66	18	0	185
Lake trout	0.0934	2.3349	0	206	653	1,090	969	101	0	3,019
Yellow perch	0.0112	0.2807	0	0	0	362	1	0	0	363
Walleye	0.0001	0.0023	0	0	0	0	0	3	0	3
Other	0.0004	0.0093	0	0	0	0	4	8	0	12
Lamprey on chinook salmon			0	7	2	1	0	0	0	10
Lamprey on lake trout			0	0	10	12	1	0	0	23
Angler hours			35	4,985	5,522	7,278	10,124	4,335	30	32,309
Angler trips			5	855	951	1,273	1,760	765	5	5,614
Anglers										
Resident			4	681	777	1,052	1,378	633	4	4,529
Nonresident			1	174	174	221	382	132	1	1,085
Charter excursions			2	202	219	280	412	177	1	1,293

Appendix 9.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Muskegon, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0203	0.4489	4	14	19	17	20	27	0	101
Chinook salmon	0.0617	1.3644	0	42	39	44	84	91	7	307
Rainbow trout	0.0235	0.5200	0	3	10	33	24	42	5	117
Brown trout	0.0048	0.1067	10	3	1	4	3	3	0	24
Lake trout	0.0473	1.0444	0	14	34	100	79	8	0	235
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0012	0.0267	1	0	0	0	5	0	0	6
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	1	1	0	0	0	2
Angler hours			92	292	629	1,220	1,684	980	76	4,973
Angler trips			14	58	123	219	295	182	12	903
Anglers										
Resident			10	50	104	178	224	147	8	721
Nonresident			4	8	19	41	71	35	4	182
Charter excursions			3	14	31	47	79	48	3	225

Appendix 10.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Whitehall/Montague, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0240	0.5470	0	2	4	14	19	25	0	64
Chinook salmon	0.0552	1.2564	0	18	7	48	49	25	0	147
Rainbow trout	0.0349	0.7949	0	2	2	41	42	6	0	93
Brown trout	0.0019	0.0427	0	3	0	0	2	0	0	5
Lake trout	0.0533	1.2137	0	9	13	76	42	2	0	142
Yellow perch	0.0203	0.4615	50	0	0	0	0	4	0	54
Walleye	0.0011	0.0256	0	3	0	0	0	0	0	3
Other	0.0000	0.0000	0	0	0	0	0	0	0	0
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	0	1	0	0	0	1
Angler hours			25	164	174	960	1,064	277	0	2,664
Angler trips			7	25	29	143	171	55	0	430
Anglers										
Resident			7	23	24	61	88	33	0	236
Nonresident			0	2	5	82	83	22	0	194
Charter excursions			5	9	8	38	43	14	0	117

Appendix 11.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Pentwater, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0140	0.3737	0	0	0	10	50	45	0	105
Chinook salmon	0.0911	2.4270	1	51	105	146	306	73	0	682
Rainbow trout	0.0679	1.8078	4	6	26	139	220	113	0	508
Brown trout	0.0080	0.2135	7	6	2	34	11	0	0	60
Lake trout	0.0597	1.5907	0	24	52	205	164	2	0	447
Yellow perch	0.0171	0.4555	78	25	0	25	0	0	0	128
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0003	0.0071	0	2	0	0	0	0	0	2
Lamprey on chinook salmon			0	0	0	1	0	0	0	1
Lamprey on lake trout			0	0	1	2	3	0	0	6
Angler hours			88	213	847	2,310	3,379	646	0	7,483
Angler trips			13	36	134	368	514	92	0	1,157
Anglers										
Resident			13	34	63	269	327	76	0	782
Nonresident			0	2	71	99	187	16	0	375
Charter excursions			4	12	37	90	118	20	0	281

Appendix 12.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Ludington, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0209	0.6139	1	15	14	77	431	121	4	663
Chinook salmon	0.1058	3.1046	0	164	353	534	1,893	395	14	3,353
Rainbow trout	0.0535	1.5694	6	28	151	493	485	511	21	1,695
Brown trout	0.0096	0.2824	103	69	9	29	85	10	0	305
Lake trout	0.0566	1.6602	0	92	233	684	776	8	0	1,793
Yellow perch	0.0032	0.0954	0	100	0	3	0	0	0	103
Walleye	0.0001	0.0019	2	0	0	0	0	0	0	2
Other	0.0004	0.0120	0	0	5	1	4	3	0	13
Lamprey on chinook salmon			0	2	0	2	3	0	0	7
Lamprey on lake trout			0	1	4	7	12	0	0	24
Angler hours			831	1,341	2,682	7,089	16,007	3,533	214	31,697
Angler trips			106	180	351	1,005	2,252	501	29	4,424
Anglers										
Resident			97	118	308	773	1,659	409	23	3,387
Nonresident			9	62	43	232	593	92	6	1,037
Charter excursions			25	44	85	247	548	124	7	1,080

Appendix 13.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Manistee, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0153	0.4332	1	0	17	37	188	39	0	282
Chinook salmon	0.0907	2.5622	0	66	253	325	872	152	0	1,668
Rainbow trout	0.0557	1.5714	8	12	669	212	51	67	4	1,023
Brown trout	0.0219	0.6175	219	14	28	43	96	2	0	402
Lake trout	0.0595	1.6790	0	20	408	386	274	5	0	1,093
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0003	0.0077	0	0	2	0	0	3	0	5
Lamprey on chinook salmon			0	0	3	4	11	0	0	18
Lamprey on lake trout			0	1	4	7	6	1	0	19
Angler hours			852	311	4,912	3,911	7,064	1,319	12	18,381
Angler trips			132	46	647	579	975	195	2	2,576
Anglers										
Resident			124	39	560	508	721	161	0	2,113
Nonresident			8	7	87	71	254	34	2	463
Charter excursions			39	13	153	144	247	54	1	651

Appendix 14.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Onekama, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0211	0.5851	0	0	6	8	51	45	0	110
Chinook salmon	0.1033	2.8670	0	7	55	161	210	106	0	539
Rainbow trout	0.0454	1.2606	0	0	123	70	18	26	0	237
Brown trout	0.0103	0.2872	0	3	1	23	24	3	0	54
Lake trout	0.0720	2.0000	0	0	60	207	106	3	0	376
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0010	0.0266	0	0	0	0	0	5	0	5
Lamprey on chinook salmon			0	0	0	2	0	0	0	2
Lamprey on lake trout			0	0	0	5	0	0	0	5
Angler hours			0	30	867	1,885	1,703	735	0	5,220
Angler trips			0	6	97	260	234	128	0	725
Anglers										
Resident			0	6	87	195	187	88	0	563
Nonresident			0	0	10	65	47	40	0	162
Charter excursions			0	3	25	64	64	32	0	188

Appendix 15.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Frankfort/Elberta, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0467	1.1655	0	0	1	12	536	470	9	1,028
Chinook salmon	0.0440	1.0975	0	32	94	203	396	237	6	968
Rainbow trout	0.0158	0.3934	2	7	159	86	71	17	5	347
Brown trout	0.0094	0.2336	11	29	21	91	44	9	1	206
Lake trout	0.1533	3.8243	0	213	755	1,401	989	15	0	3,373
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0008	0.0204	0	2	2	5	9	0	0	18
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	1	6	6	3	0	0	16
Angler hours			110	1,062	3,528	5,885	7,936	3,381	106	22,008
Angler trips			20	191	572	944	1,307	547	22	3,603
Anglers										
Resident			20	179	467	789	1,106	452	16	3,029
Nonresident			0	12	105	155	201	95	6	574
Charter excursions			5	50	134	221	326	140	6	882

Appendix 16.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Leland, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0002	0.0046	0	0	0	1	2	0	0	3
Chinook salmon	0.0213	0.4586	0	1	31	176	79	7	5	299
Rainbow trout	0.0163	0.3512	0	2	114	77	34	1	1	229
Brown trout	0.0102	0.2209	0	72	21	40	11	0	0	144
Lake trout	0.3487	7.5215	0	279	652	2,052	1,762	159	0	4,904
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0015	0.0322	0	0	0	10	9	2	0	21
Lamprey on chinook salmon			0	0	0	1	0	0	0	1
Lamprey on lake trout			0	1	5	27	12	0	0	45
Angler hours			0	761	1,874	5,564	5,226	612	26	14,063
Angler trips			0	157	358	1,126	1,050	130	6	2,827
Anglers										
Resident			0	141	272	831	704	101	6	2,055
Nonresident			0	16	86	295	346	29	0	772
Charter excursions			0	40	85	255	236	34	2	652

Appendix 17.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on the West Arm of Grand Traverse Bay (Grids 715, 815, and 915), Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0053	0.0814	0	0	0	0	1	23	0	24
Chinook salmon	0.0520	0.7966	0	1	6	5	33	190	0	235
Rainbow trout	0.0035	0.0542	0	1	5	2	8	0	0	16
Brown trout	0.0062	0.0949	0	2	7	9	6	4	0	28
Lake trout	0.1488	2.2780	0	68	191	184	180	49	0	672
Yellow perch	0.0155	0.2373	0	0	0	0	0	0	70	70
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0024	0.0373	0	0	2	6	3	0	0	11
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	2	2	1	5	0	0	10
Angler hours			0	177	806	1,134	1,228	1,152	18	4,515
Angler trips			0	45	192	258	274	294	3	1,066
Anglers										
Resident			0	34	135	182	186	208	3	748
Nonresident			0	11	57	76	88	86	0	318
Charter excursions			0	13	49	67	79	86	1	295

Appendix 18.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on the East Arm of Grand Traverse Bay (Grids 716, 816, and 916), Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Chinook salmon	0.0251	0.3827	0	4	1	0	28	109	0	142
Rainbow trout	0.0016	0.0243	0	0	4	1	3	1	0	9
Brown trout	0.0271	0.4124	0	5	14	87	42	5	0	153
Lake trout	0.0710	1.0809	0	73	78	118	122	10	0	401
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0021	0.0323	0	1	5	1	2	3	0	12
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	1	2	2	0	0	0	5
Angler hours			40	459	605	1,896	1,758	889	0	5,647
Angler trips			10	122	154	487	449	228	0	1,450
Anglers										
Resident			4	93	106	303	253	161	0	920
Nonresident			6	29	48	184	196	67	0	530
Charter excursions			2	32	44	119	115	59	0	371

Appendix 19.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Charlevoix, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0009	0.0199	0	0	0	2	4	0	0	6
Chinook salmon	0.0041	0.0864	0	0	0	4	10	12	0	26
Rainbow trout	0.0006	0.0133	0	0	1	2	1	0	0	4
Brown trout	0.0013	0.0266	0	3	0	3	2	0	0	8
Lake trout	0.2707	5.6910	0	40	200	762	647	64	0	1,713
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0002	0.0033	0	0	0	0	1	0	0	1
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	1	3	5	1	0	0	10
Angler hours			0	100	626	2,198	2,913	492	0	6,329
Angler trips			0	25	140	471	563	110	0	1,309
Anglers										
Resident			0	12	85	255	283	81	0	716
Nonresident			0	13	55	216	280	29	0	593
Charter excursions			0	7	36	112	120	26	0	301

Appendix 20.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Petoskey/Harbor Springs, Lake Michigan, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Chinook salmon	0.0127	0.1818	0	0	0	0	9	1	0	10
Rainbow trout	0.0013	0.0182	0	0	0	0	1	0	0	1
Brown trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Lake trout	0.3626	5.1818	0	0	23	72	159	31	0	285
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0000	0.0000	0	0	0	0	0	0	0	0
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	0	2	3	0	0	5
Angler hours			0	0	60	152	477	97	0	786
Angler trips			0	0	15	38	118	21	0	192
Anglers										
Resident			0	0	8	13	50	13	0	84
Nonresident			0	0	7	25	68	8	0	108
Charter excursions			0	0	6	12	32	5	0	55

Appendix 21.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Rogers City, Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0005	0.0076	0	0	0	0	1	0	0	1
Chinook salmon	0.3172	5.0076	0	0	14	203	346	98	0	661
Rainbow trout	0.0130	0.2045	0	0	2	11	13	1	0	27
Brown trout	0.0321	0.5076	0	0	1	36	28	2	0	67
Lake trout	0.0581	0.9167	0	0	6	101	12	2	0	121
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0024	0.0379	0	0	0	3	2	0	0	5
Lamprey on chinook salmon			0	0	0	11	24	8	0	43
Lamprey on lake trout			0	0	0	2	0	0	0	2
Angler hours			0	0	52	704	1,076	252	0	2,084
Angler trips			0	0	13	163	231	61	0	468
Anglers										
Resident			0	0	7	83	167	56	0	313
Nonresident			0	0	6	80	64	5	0	155
Charter excursions			0	0	5	42	67	18	0	132

Appendix 22.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Rockport, Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Chinook salmon	0.2691	4.3852	0	0	30	288	257	17	0	592
Rainbow trout	0.0186	0.3037	0	0	2	20	19	0	0	41
Brown trout	0.0041	0.0667	0	0	0	6	3	0	0	9
Lake trout	0.0818	1.3333	0	17	10	100	53	0	0	180
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0059	0.0963	0	0	2	8	3	0	0	13
Lamprey on chinook salmon			0	0	5	21	31	1	0	58
Lamprey on lake trout			0	0	1	5	3	0	0	9
Angler hours			0	36	97	1,049	964	54	0	2,200
Angler trips			0	6	21	188	173	10	0	398
Anglers										
Resident			0	2	18	126	138	10	0	294
Nonresident			0	4	3	62	35	0	0	104
Charter excursions			0	2	10	65	55	3	0	135

Appendix 23.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Alpena, Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0008	0.0152	0	0	0	3	0	0	0	3
Chinook salmon	0.1384	2.6497	0	7	35	201	240	39	0	522
Rainbow trout	0.0122	0.2335	0	1	2	25	15	3	0	46
Brown trout	0.0947	1.8122	26	32	54	108	109	18	10	357
Lake trout	0.0199	0.3807	0	17	9	25	24	0	0	75
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0111	0.2132	11	27	3	1	0	0	0	42
Other	0.0016	0.0305	0	1	0	3	1	1	0	6
Lamprey on chinook salmon			0	1	0	14	33	6	0	54
Lamprey on lake trout			0	0	0	2	1	0	0	3
Angler hours			88	159	494	1,423	1,306	277	24	3,771
Angler trips			20	31	94	237	230	55	6	673
Anglers										
Resident			19	16	41	210	205	35	6	532
Nonresident			1	15	53	27	25	20	0	141
Charter excursions			6	11	28	67	66	17	2	197

Appendix 24.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Harrisville, Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0032	0.0537	0	0	0	0	0	8	0	8
Chinook salmon	0.1754	2.9329	0	3	45	109	230	50	0	437
Rainbow trout	0.0197	0.3289	0	2	10	14	16	7	0	49
Brown trout	0.0036	0.0604	0	0	0	3	6	0	0	9
Lake trout	0.0943	1.5772	0	1	32	63	138	1	0	235
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0004	0.0067	0	0	0	0	1	0	0	1
Other	0.0028	0.0470	0	0	0	3	3	1	0	7
Lamprey on chinook salmon			0	0	0	6	12	0	0	18
Lamprey on lake trout			0	0	2	7	4	0	0	13
Angler hours			0	60	286	686	1,203	256	0	2,491
Angler trips			0	12	43	124	229	47	0	455
Anglers										
Resident			0	11	35	119	218	45	0	428
Nonresident			0	1	8	5	11	2	0	27
Charter excursions			0	5	14	42	71	17	0	149

Appendix 25.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Oscoda, Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0008	0.0136	0	0	0	4	3	1	0	8
Chinook salmon	0.1596	2.8776	21	50	179	477	586	344	35	1,692
Rainbow trout	0.0472	0.8503	55	27	62	162	161	31	2	500
Brown trout	0.0206	0.3707	31	68	30	42	28	17	2	218
Lake trout	0.0600	1.0816	1	32	85	254	212	52	0	636
Yellow perch	0.0001	0.0017	0	0	0	1	0	0	0	1
Walleye	0.0038	0.0680	4	1	0	9	16	10	0	40
Other	0.0010	0.0187	0	1	0	3	4	3	0	11
Lamprey on chinook salmon			1	4	13	24	28	16	1	87
Lamprey on lake trout			0	3	3	4	2	5	0	17
Angler hours			540	482	994	3,069	3,401	1,974	141	10,601
Angler trips			83	78	169	516	615	344	23	1,828
Anglers										
Resident			75	71	144	451	532	290	15	1,578
Nonresident			8	7	25	65	83	54	8	250
Charter excursions			35	27	56	162	186	114	8	588

Appendix 26.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Saginaw Bay (Port Austin to Tawas), Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0003	0.0075	0	0	0	2	1	0	0	3
Chinook salmon	0.0224	0.6382	0	6	71	72	105	0	0	254
Rainbow trout	0.0084	0.2387	0	1	17	21	56	0	0	95
Brown trout	0.0130	0.3693	0	4	12	91	40	0	0	147
Lake trout	0.0283	0.8065	0	8	182	39	92	0	0	321
Yellow perch	0.1722	4.9045	24	10	289	664	340	506	119	1,952
Walleye	0.1451	4.1332	1	1	49	922	605	67	0	1,645
Other	0.0088	0.2513	0	1	5	58	26	10	0	100
Lamprey on chinook salmon			0	0	7	0	0	0	0	7
Lamprey on lake trout			0	0	2	0	0	0	0	2
Angler hours			24	176	1,937	5,599	2,777	759	66	11,338
Angler trips			4	34	344	991	474	143	14	2,004
Anglers										
Resident			4	33	330	916	430	138	14	1,865
Nonresident			0	1	14	75	44	5	0	139
Charter excursions			1	11	68	182	115	18	3	398

Appendix 27.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Grindstone City, Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0014	0.0286	0	4	3	1	4	0	0	12
Chinook salmon	0.1224	2.5036	0	104	291	266	349	39	0	1,049
Rainbow trout	0.0453	0.9260	0	27	37	113	198	13	0	388
Brown trout	0.0046	0.0931	0	3	3	26	6	1	0	39
Lake trout	0.1688	3.4535	0	245	526	430	235	11	0	1,447
Yellow perch	0.0001	0.0024	0	0	0	0	0	1	0	1
Walleye	0.0098	0.2005	0	0	0	38	37	9	0	84
Other	0.0022	0.0453	0	1	6	5	4	3	0	19
Lamprey on chinook salmon			0	6	10	9	20	0	0	45
Lamprey on lake trout			0	7	13	6	7	0	0	33
Angler hours			0	1,100	2,177	2,494	2,456	343	0	8,570
Angler trips			0	194	379	427	429	58	0	1,487
Anglers										
Resident			0	186	364	397	405	55	0	1,407
Nonresident			0	8	15	30	24	3	0	80
Charter excursions			0	53	105	118	125	18	0	419

Appendix 28.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Harbor Beach, Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0009	0.0183	0	3	0	0	1	0	0	4
Chinook salmon	0.0987	2.0734	9	65	66	35	92	164	21	452
Rainbow trout	0.0293	0.6147	1	12	14	17	50	40	0	134
Brown trout	0.0181	0.3807	32	18	12	9	10	2	0	83
Lake trout	0.0843	1.7706	0	29	89	99	107	62	0	386
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0009	0.0183	0	2	0	0	0	2	0	4
Other	0.0007	0.0138	0	0	0	2	1	0	0	3
Lamprey on chinook salmon			3	5	8	3	2	3	0	24
Lamprey on lake trout			0	1	2	3	3	3	0	12
Angler hours			284	918	457	599	1,064	1,160	99	4,581
Angler trips			45	143	81	104	188	210	19	790
Anglers										
Resident			43	126	79	85	180	200	17	730
Nonresident			2	17	2	19	8	10	2	60
Charter excursions			12	40	25	29	49	58	5	218

Appendix 29.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Port Sanilac, Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0018	0.0370	0	1	2	1	0	0	0	4
Chinook salmon	0.0817	1.6852	26	107	31	11	6	1	0	182
Rainbow trout	0.0225	0.4630	1	24	12	9	4	0	0	50
Brown trout	0.0166	0.3426	24	11	0	1	1	0	0	37
Lake trout	0.0144	0.2963	0	14	14	3	1	0	0	32
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0031	0.0648	3	4	0	0	0	0	0	7
Other	0.0004	0.0093	0	1	0	0	0	0	0	1
Lamprey on chinook salmon			0	0	1	1	1	0	0	3
Lamprey on lake trout			0	0	2	0	0	0	0	2
Angler hours			394	1,033	411	211	136	42	0	2,227
Angler trips			65	181	73	41	24	8	0	392
Anglers										
Resident			65	177	59	36	19	8	0	364
Nonresident			0	4	14	5	5	0	0	28
Charter excursions			17	48	21	13	7	2	0	108

Appendix 30.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Lexington, Lake Huron, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0106	0.2222	7	5	0	0	0	0	0	12
Chinook salmon	0.0643	1.3519	47	25	0	1	0	0	0	73
Rainbow trout	0.0062	0.1296	1	1	4	1	0	0	0	7
Brown trout	0.0326	0.6852	33	3	0	0	1	0	0	37
Lake trout	0.0026	0.0556	0	0	1	1	1	0	0	3
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0220	0.4630	25	0	0	0	0	0	0	25
Other	0.0018	0.0370	0	2	0	0	0	0	0	2
Lamprey on chinook salmon			1	0	0	0	0	0	0	1
Lamprey on lake trout			0	0	0	0	0	0	0	0
Angler hours			618	410	64	20	24	0	0	1,136
Angler trips			109	72	17	4	6	0	0	208
Anglers										
Resident			109	69	17	4	6	0	0	205
Nonresident			0	3	0	0	0	0	0	3
Charter excursions			29	19	4	1	1	0	0	54

Appendix 31.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Black River Harbor, Lake Superior, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0617	2.7303	0	7	157	56	19	3	1	243
Chinook salmon	0.0018	0.0787	0	0	1	1	4	1	0	7
Rainbow trout	0.0081	0.3596	0	0	15	9	7	1	0	32
Brown trout	0.0003	0.0112	0	0	1	0	0	0	0	1
Lake trout	0.2127	9.4157	0	5	197	328	252	48	8	838
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0008	0.0337	0	0	0	0	3	0	0	3
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	2	4	1	0	0	7
Angler hours			0	36	1,183	1,436	1,035	220	30	3,940
Angler trips			0	4	158	184	127	25	5	503
Anglers										
Resident			0	0	53	54	54	2	1	164
Nonresident			0	4	105	130	73	23	4	339
Charter excursions			0	1	30	31	22	4	1	89

Appendix 32.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Ontonagon, Lake Superior, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0080	0.2553	0	0	5	5	2	0	0	12
Chinook salmon	0.0141	0.4468	0	6	14	1	0	0	0	21
Rainbow trout	0.0013	0.0426	0	2	0	0	0	0	0	2
Brown trout	0.0034	0.1064	0	1	4	0	0	0	0	5
Lake trout	0.3224	10.2340	0	9	118	193	161	0	0	481
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0000	0.0000	0	0	0	0	0	0	0	0
Lamprey on chinook salmon			0	0	1	0	0	0	0	1
Lamprey on lake trout			0	0	3	3	1	0	0	7
Angler hours			0	68	357	675	392	0	0	1,492
Angler trips			0	10	54	94	66	0	0	224
Anglers										
Resident			0	6	19	46	28	0	0	99
Nonresident			0	4	35	48	38	0	0	125
Charter excursions			0	3	12	19	13	0	0	47

Appendix 33.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Marquette, Lake Superior, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0073	0.2791	0	9	1	4	10	12	0	36
Chinook salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Rainbow trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Brown trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Lake trout	0.2848	10.9302	0	46	346	588	371	59	0	1,410
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0000	0.0000	0	0	0	0	0	0	0	0
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	0	2	0	0	0	2
Angler hours			0	113	1,240	2,274	1,186	139	0	4,952
Angler trips			0	24	123	263	144	26	0	580
Anglers										
Resident			0	21	104	177	90	21	0	413
Nonresident			0	3	19	86	54	5	0	167
Charter excursions			0	11	27	49	33	9	0	129

Appendix 34.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats in the vicinity of Isle Royale National Park, Lake Superior, 1995.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0013	0.0360	0	0	0	0	5	0	0	5
Chinook salmon	0.0008	0.0216	0	0	0	0	3	0	0	3
Rainbow trout	0.0038	0.1007	0	0	0	4	10	0	0	14
Brown trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Lake trout	0.2203	5.9137	1	0	43	300	400	50	28	822
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0000	0.0000	0	0	0	0	0	0	0	0
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	0	1	10	0	0	11
Angler hours			48	0	250	1,290	1,776	271	96	3,731
Angler trips			6	0	63	199	262	44	18	592
Anglers										
Resident			0	0	58	39	32	8	0	137
Nonresident			6	0	5	160	230	36	18	455
Charter excursions			1	0	17	50	59	9	3	139