

# Charter Boat Catch and Effort from the Michigan Waters of the Great Lakes, 1996

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, 1996**

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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 491 charter fishing operators complied with the law by returning their completed catch reporting forms in 1996. These operators reported making 15,642 charter fishing excursions during April through October. The total number of charter excursions increased by 115 (+1%) in 1996 compared to 1995. Approximately 438,000 angler hours were spent fishing by some 73,500 charter clients. The distribution of charter fishing excursions was: 66% Lake Michigan, 17% Lake Huron, 11% Lake Erie, 3% Lake Superior, and 3% Lake St. Clair. Over 240,000 fish were reported harvested. The harvest was composed of about 89,500 yellow perch, 43,300 walleye, 33,800 chinook salmon, 33,500 lake trout, 20,900 rainbow trout, 9,400 coho salmon, and 3,900 brown trout.

In general, catch rates of important species taken in the charter fishery during 1990-96 correlated significantly ( $P < 0.05$ ) with catch rates estimated independently from Michigan's Great Lakes creel survey during the same time period.

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 491. The charter fishing industry provides Michigan's economy with significant economic benefits each year. 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 491 known charter operators during March 1996. 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 November 1996, 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 1997 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 1996 fishing season, an average of 67% of all charter boat operators complied with the law by submitting their catch reports by the due date, while 82% submitted reports within 30 days of the due date. Monthly rate of compliance in 1996 was slightly (3%) less as

compared to 1995. By the end of the 1996 season, 92% of all charter operators had complied with the law. Final compliance rate for 1996 was the same as 1995 (Rakoczy and Svoboda 1997).

### *Catch and effort*

Charter operators submitted reports on 15,642 charter excursions during April through October, 1996 on lakes Michigan, Huron, Erie, Superior and St. Clair (Tables 1 through 5). The total number of charter excursions in 1996 increased by 115 (+1%) compared to 1995 (Rakoczy and Svoboda 1997). Increases in the number of charter excursions in 1996 as compared to 1995 occurred on lakes Michigan (+3%) and St. Clair (+21%). The number of charter excursions which took place on lakes Huron, Erie, and Superior during 1996 were virtually unchanged as compared to 1995. The distribution of charter fishing effort (excursions) by lake was: 66% Lake Michigan, 17% Lake Huron, 11% Lake Erie, 3% Lake Superior, and 3% Lake St. Clair. The distribution of charter fishing effort by lake in 1996 was very similar to previous years.

A total of 437,856 hours were spent fishing by 73,526 charter anglers in Michigan's waters and tributaries of the Great Lakes (Tables 1 through 5). The total number of charter anglers in 1996 increased by 1,384 (+2%) compared to 1995. All lakes, except Lake Michigan, had slightly more charter anglers during 1996 than during 1995. Thirty percent of all charter clients were not residents of Michigan. Lake Superior charter operators had the greatest percentage of nonresident clients (55%; Table 4), while Lake St. Clair charter captains had the lowest percentage (2%; Table 5).

A total of 241,000 fish were reported harvested in all lakes. Lake Michigan accounted for 51% of all fish harvested, while lakes Erie and Huron accounted for 32% and 7%, respectively, of the total harvest. The most numerous species in the harvest was yellow perch (89,500) which accounted for 37% of the total harvest. Numbers of other species harvested were: 43,300 walleye (18%), 33,800 chinook salmon (14%), 33,500 lake trout (14%),

20,900 rainbow trout (9%), 9,400 coho salmon (4%), and 3,900 brown trout (2%). The "other" species category was approximately 2% 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 salmonines harvested from Michigan's Great Lakes waters increased during 1996 compared to 1995. The harvest of chinook salmon (+59%), rainbow trout (+99%), coho salmon (+33%), and brown trout (+22%) all increased as compared to the previous year. The only species of the salmonine complex that showed a decline in harvest during 1996 compared to 1995 was lake trout (-15%).

Lake Michigan was responsible for most of the increase in the salmonine harvest. The harvest of coho salmon (+2,100 or +31%), chinook salmon (+12,400 or +83%), and rainbow trout (+10,200 or +112%) on Lake Michigan increased dramatically during 1996 compared to 1995. Lake Michigan's lake trout harvest declined by over 8,000 fish (-26%) in 1996 compared to 1995. Lake Huron anglers catch of chinook salmon and rainbow trout increased slightly as compared to 1995, while their harvest of lake trout (+46%) increased and brown trout (-57%) decreased.

The number of walleye (+3%) harvested increased slightly compared to 1996, while the yellow perch (-27%) harvest declined. Most of the decline in the harvest of yellow perch was due to Lake Michigan where the numbers of yellow perch decreased by 51,000 fish (-56%) compared to 1995. The Lake Erie yellow perch harvest however, increased by 56% compared to the previous year. The numbers of walleye harvested on lakes Erie and Huron were virtually unchanged during 1996 compared to 1995.

Catch rates (fish per 100 angler hours) by Lake Michigan charter anglers in 1996 as compared to 1995 increased for coho salmon (+32%), chinook salmon (+80%), rainbow trout (+110%) and brown trout (+57%) (Table 6). Lake trout was the only salmonine on Lake Michigan for which catch rates declined (-26%). 1996 was the second consecutive season for which rates for chinook salmon increased on Lake Michigan. On Lake Huron, catch rates

were virtually unchanged for chinook salmon and rainbow trout compared to the previous year. Catch rates for brown trout during 1996 declined by 58% while rates for lake trout increased by 42% as compared to 1995. Catch rates for lake trout have been trending upward since 1994 on Lake Huron. Lake trout are the most important salmonine in the charter catch from Lake Superior and catch rates for lake trout have been virtually unchanged during the past seven seasons.

Walleye play an important role in charter fisheries on Lakes Erie, Huron, and St. Clair. Catch rates for walleye by charter clients were virtually unchanged on lakes Huron and Erie during 1996 as compared to 1995 (Table 7). Catch rates for walleye on Lake St. Clair and the St. Clair River system declined by 21% during 1996 compared to the previous year.

Most (82%) charter excursions which took place on Michigan's Great Lakes waters during 1996 were aimed at the various species of salmonines. The total catch per charter excursion for all five species of salmonines combined increased during 1996 compared to 1995 at the Lake Michigan ports of St. Joseph/Benton Harbor, Grand Haven, Ludington, Manistee, Frankfort/Elberta and Leland (Table 8). The 1996 Lake Michigan salmonine fishery was well above the 6 year average (1990-95) at all of these ports. Catch rates for salmonines increased at three of five Lake Huron ports during 1996 compared to 1995. A comparison of catch rates at these five Lake Huron ports (Rogers City, Alpena, Oscoda, Grindstone City and Harbor Beach) with the 1990-95 average indicates that the 1996 fishery for salmonines on Lake Huron was one of the best on record. On Lake Superior, salmonine catch rates increased at Marquette, Ontonagon and Black River Harbor during 1996 compared to the previous year. Salmonine catch rates on Lake Superior were also well above the 1990-95 average during 1996.

As has been the case in previous years (1990-95), 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 1996 was 1.9, as compared to 0.7 for Lake

Michigan and 1.0 for Lake Superior. Charter captains also reported 3.9 lamprey per 100 chinook salmon harvested on Lake Huron during 1996 as compared to 0.1 for Lake Michigan and zero for Lake Superior.

#### *Multi-year analysis and review*

One of the most important applications of the charter boat catch and effort data are the valuable trend information that it provides on the salmonine fisheries on lakes Michigan, Huron and Superior as well as for the yellow perch and walleye fisheries on lakes Huron, St. Clair and Erie. For example, the chinook catch rate data series shows the improvement in the chinook fisheries on Lake Huron since 1993 and on Lake Michigan since 1995 (Table 6). Also, the trendless lake trout catch rate data for Lake Superior indicates the continued health of that fishery. In general, yellow perch catch rates have been trending upward on lakes St. Clair and Erie, while the walleye fishery on Lake Huron has declined (Table 7).

From time to time the question regarding the veracity of the charter boat catch data has arisen from within the MDNR, MCBA and from individual charter operators themselves. The project biologist has always tried to insure that the data are being recorded by charter operators as soon as possible after the charter excursion has been completed. Charter operators have always been sent postcard notices 10 days and 30 days after their monthly reports were delinquent. Also, at the end of each season operators who were delinquent with their reports for two or more months were sent letters via certified mail. These reminders have proven very useful. The final compliance rate during 1991-96 ranged from 92-98% and averaged 97% per year.

Also, two very important changes were made to the program since 1991. First, during 1992, the charter boat catch reporting law was re-authorized and strengthened. Most importantly the 1992 law required that charter operators have a record of their catch and effort on board their boats at all times. Second, the charter catch report form was redesigned for the 1996 season and provided a carbon copy for the charter operators records.

Providing for timely reporting is important; however, providing for accuracy is another matter. It is difficult to insure that all charter operators are reporting in an honest manner. One way to test the accuracy of the charter data is to compare it to Michigan's Great Lakes creel survey data which has been collected during 1990-96. Catch rates for major species at high use (based on angler hours) ports on the Great Lakes should show the same seasonal trends in both data sets. Correlation analysis of mean seasonal catch rates from the creel survey and from the charter reporting program indicates that correlation was good ( $P < 0.05$ ) for chinook salmon and rainbow trout at most ports (Table 10.). In general, correlation of lake trout catch rates from the two fisheries were lower at most ports than that calculated for chinook salmon or rainbow trout. Yellow perch catch rates correlated significantly on Lake Erie at Monroe, while walleye did not. Several important differences between the charter and non-charter walleye fishery on Lake Erie could explain the lower correlation of walleye catch rates. First,

many charter fisherman do not operate on Lake Erie during the entire angling season. These operators fish only during May and June, which historically have been the best months for walleye, and then move to Lake Michigan or Lake Huron ports to fish for salmonines during July through September. Second, many Lake Erie charter operators dock in the Michigan waters of Lake Erie, but fish in the Ohio waters of the lake. The Ohio catch and effort is not reported to Michigan. In general, this multi-year analysis support the assumption that the charter data are accurate.

### **Acknowledgments**

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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		
1																	
2																	
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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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0289	0.8549	507	1,205	1,509	1,023	2,962	1,613	24	8,843
Chinook salmon	0.0895	2.6484	92	2,566	3,327	6,095	10,598	4,435	282	27,395
Rainbow trout	0.0631	1.8659	601	4,304	5,763	2,919	2,822	2,181	711	19,301
Brown trout	0.0112	0.3306	719	710	257	648	874	154	58	3,420
Lake trout	0.0746	2.2068	4	1,993	4,943	7,843	7,562	481	1	22,827
Yellow perch	0.1310	3.8754	9,902	8,169	5,780	7,133	8,370	733	0	40,087
Walleye	0.0033	0.0984	5	38	128	502	262	79	4	1,018
Other	0.0015	0.0430	56	9	32	168	104	31	45	445
Lamprey on chinook salmon			0	1	9	2	13	8	0	33
Lamprey on lake trout			0	9	50	50	58	2	0	169
Angler hours			16,253	37,335	52,763	69,965	94,504	30,930	4,293	306,043
Angler trips			2,863	6,285	8,689	11,619	15,558	5,140	633	50,787
Anglers										
Resident			1,739	3,918	5,269	7,418	10,126	3,555	328	32,353
Nonresident			1,124	2,367	3,420	4,201	5,432	1,585	305	18,434
Charter excursions			361	1,143	1,694	2,393	3,347	1,225	181	10,344

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0039	0.0818	2	17	50	15	83	45	0	212
Chinook salmon	0.1177	2.4599	17	594	663	1,017	2,980	1,034	71	6,376
Rainbow trout	0.0275	0.5760	8	75	212	285	762	136	15	1,493
Brown trout	0.0080	0.1667	17	80	30	119	154	32	0	432
Lake trout	0.0943	1.9726	0	514	980	1,489	2,000	127	3	5,113
Yellow perch	0.0279	0.5841	0	0	251	558	457	89	159	1,514
Walleye	0.0344	0.7188	2	24	15	1,007	777	38	0	1,863
Other	0.0170	0.3553	0	14	133	212	336	226	0	921
Lamprey on chinook salmon			0	14	18	54	123	39	0	248
Lamprey on lake trout			0	6	16	38	35	1	0	96
Angler hours			361	5,196	7,517	14,159	21,248	5,381	332	54,194
Angler trips			53	863	1,327	2,535	3,786	983	61	9,608
Anglers										
Resident			50	778	1,189	2,174	3,283	820	52	8,346
Nonresident			3	85	138	361	503	163	9	1,262
Charter excursions			18	244	353	684	996	275	22	2,592

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, 1996.

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	0.0006	1	0	0	0	0	0	0	1
Rainbow trout	0.0001	0.0039	0	0	6	1	0	0	0	7
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	0.7841	21.0349	0	206	369	726	15,852	14,228	5,956	37,337
Walleye	0.8221	22.0558	401	4,524	20,118	12,321	1,783	2	0	39,149
Other	0.0276	0.7408	0	131	644	296	3	169	72	1,315
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			605	6,708	20,743	11,785	4,422	2,412	945	47,620
Angler trips			107	1,199	3,872	2,265	804	456	180	8,883
Anglers										
Resident			96	980	3,439	2,035	722	412	157	7,841
Nonresident			11	219	433	230	82	44	23	1,042
Charter excursions			23	246	760	454	165	90	37	1,775

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0190	0.7042	0	20	159	73	23	44	50	369
Chinook salmon	0.0028	0.1031	0	0	22	19	8	4	1	54
Rainbow trout	0.0030	0.1126	0	0	27	15	12	3	2	59
Brown trout	0.0002	0.0076	0	1	2	1	0	0	0	4
Lake trout	0.2850	21.8110	0	18	1,050	2,109	1,956	382	25	5,540
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	0.0001	0.0019	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	0	2	14	36	2	0	54
Angler hours			0	146	4,028	7,060	6,837	1,206	161	19,438
Angler trips			0	16	473	935	914	183	39	2,560
Anglers										
Resident			0	3	250	507	309	90	1	1,160
Nonresident			0	13	223	428	605	93	38	1,400
Charter excursions			0	3	96	188	189	41	7	524

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, 1996.

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	0.0002	0.0049	0	2	0	0	0	0	0	2
Rainbow trout	0.0001	0.0025	0	0	0	0	0	1	0	1
Brown trout	0.0002	0.0049	0	0	0	2	0	0	0	2
Lake trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Yellow perch	1.0032	26.0319	0	521	1,516	2,112	2,185	837	3,424	10,595
Walleye	0.1231	3.1941	52	11	335	618	218	66	0	1,300
Other	0.3633	9.4275	0	16	1,110	865	1,247	596	3	3,837
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			72	348	2,592	3,134	2,645	1,254	516	10,561
Angler trips			18	63	433	491	406	196	81	1,688
Anglers										
Resident			18	63	423	479	398	192	81	1,654
Nonresident			0	0	10	12	8	4	0	34
Charter excursions			5	14	104	115	95	50	24	407

Table 6.--Catch rates (fish per 100 angler hours) by charter anglers for salmonines on Lakes Michigan, Huron and Superior during 1990-96.

Species	Michigan						Huron						Superior									
	1990	1991	1992	1993	1994	1995	1996	1990	1991	1992	1993	1994	1995	1996	1990	1991	1992	1993	1994	1995	1996	
Coho salmon	3.9	2.8	3.4	4.5	2.6	2.2	2.9	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.4	1.2	3.2	1.3	1.0	1.6	1.7	1.9
Chinook salmon	7.4	7.0	4.9	4.0	4.0	5.0	9.0	6.0	6.4	6.4	7.2	8.3	11.7	11.8	0.3	0.3	0.4	0.3	0.3	0.1	0.2	0.3
Rainbow trout	4.0	7.2	6.5	5.0	5.2	3.0	6.3	0.3	0.6	0.7	1.4	1.3	2.6	2.6	0.3	0.3	0.3	0.1	0.2	0.3	0.3	0.3
Brown trout	0.6	0.8	0.4	0.7	1.1	0.7	1.1	0.1	0.2	0.7	1.7	2.1	1.9	0.8	0.1	0.2	0.1	0.1	0.0	0.1	<0.1	<0.1
Lake trout	8.4	8.7	7.6	9.7	10.4	10.2	7.5	9.8	7.9	6.6	4.3	6.3	6.6	9.4	28.5	27.9	25.5	28.2	25.3	26.2	28.5	28.5

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 1990-96.

Species	Huron						St. Clair						Erie								
	1990	1991	1992	1993	1994	1995	1996	1990	1991	1992	1993	1994	1995	1996	1990	1991	1992	1993	1994	1995	1996
Yellow perch	9.2	7.4	6.3	4.0	4.9	3.7	2.8	13.8	16.8	15.1	40.4	85.5	66.9	100.3	29.4	34.1	43.3	43.9	28.7	51.7	78.4
Walleye	5.1	7.1	6.7	7.4	6.7	3.5	3.4	32.4	20.4	12.5	18.4	12.3	15.5	12.3	74.5	62.8	78.5	81.4	69.6	82.4	82.2

Table 8.—Total and mean (1990-95) catch per excursion for all salmonines combined by charter anglers at various ports on lakes Michigan, Huron and Superior 1990-96.

Port	1990	1991	1992	1993	1994	1995	1996	Mean
Lake Michigan								
St. Joseph/Benton Harbor	7.3	8.7	7.3	8.1	7.7	7.7	10.0	7.8
Grand Haven	5.0	5.5	4.7	5.3	5.0	5.2	6.1	5.1
Ludington	9.3	11.1	8.4	8.8	7.4	7.2	10.8	8.7
Manistee	6.2	8.0	5.7	6.2	5.8	6.9	10.3	6.5
Frankfort/Elberta	7.1	7.5	5.8	6.6	6.2	6.7	8.8	6.7
Leland	7.2	9.5	9.0	6.9	9.1	8.6	9.4	8.4
Lake Huron								
Rogers City	3.2	3.3	2.5	3.9	5.2	6.6	5.9	4.1
Alpena	3.4	3.5	4.7	4.9	4.7	5.1	5.2	4.4
Oscoda	4.0	4.0	3.6	3.0	3.2	5.2	6.2	3.8
Grindstone City	5.6	6.1	5.9	4.7	5.5	7.0	8.0	5.8
Harbor Beach	3.6	2.9	3.2	2.8	3.5	4.9	6.6	3.5
Lake Superior								
Marquette	10.9	10.9	11.4	10.9	8.3	11.2	13.0	10.6
Ontonagon	12.5	11.5	14.1	14.0	10.1	11.1	15.9	12.2
Black River Harbor	12.0	12.9	10.6	13.5	14.1	12.6	14.0	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, 1990-96.

Location	Chinook salmon							Lake trout						
	1990	1991	1992	1993	1994	1995	1996	1990	1991	1992	1993	1994	1995	1996
Lake Michigan	0.5	0.3	0.2	0.1	0.3	0.3	0.1	1.8	1.2	0.8	0.6	0.6	1.0	0.7
Lake Huron	18.6	13.9	13.6	7.6	7.1	6.2	3.9	6.6	5.7	4.6	2.1	3.3	2.7	1.9
Lake Superior	0.0	8.0	0.0	0.0	0.0	3.0	0.0	1.8	1.6	0.8	0.5	1.1	0.7	1.0

Table 10.–Correlation coefficients (r) of charter and creel survey catch rates for various species at selected ports on the Great Lakes, 1990-96. P<0.05 determined significance.

Port and lake	Species									
	Chinook salmon		Rainbow trout		Lake trout		Walleye		Yellow perch	
	r	Prob.	r	Prob.	r	Prob.	r	Prob.	r	Prob.
St. Joseph, Lake Michigan	0.59	0.17	0.95	<0.01	0.52	0.23				
Grand Haven, Lake Michigan	0.84	0.02	0.89	<0.01	0.91	<0.01				
Ludington, Lake Michigan	0.97	<0.01	0.88	<0.01	0.78	0.04				
Manistee, Lake Michigan	0.84	0.02	0.89	<0.01	0.43	0.33				
Oscoda, Lake Huron	0.99	<0.01	0.92	<0.01	0.55	0.20				
Monroe, Lake Erie							0.48	0.28	0.79	0.04



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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), 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0838	2.7096	7	549	540	91	54	0	0	1,241
Chinook salmon	0.0444	1.4367	0	170	240	105	134	9	0	658
Rainbow trout	0.0531	1.7162	2	401	313	36	33	1	0	786
Brown trout	0.0021	0.0677	0	4	9	3	15	0	0	31
Lake trout	0.1433	4.6354	0	150	723	443	765	42	0	2,123
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	5	0	0	0	0	5
Lamprey on lake trout			0	0	13	2	6	0	0	21
Angler hours			48	2,519	4,648	3,248	4,181	169	0	14,813
Angler trips			6	381	705	492	621	29	0	2,234
Anglers										
Resident			0	41	7	10	53	0	0	111
Nonresident			6	340	698	482	568	29	0	2,123
Charter excursions			1	79	141	104	127	6	0	458

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0565	1.7101	6	67	30	15	0	0	0	118
Chinook salmon	0.0264	0.7971	0	30	5	15	5	0	0	55
Rainbow trout	0.0422	1.2754	4	58	7	19	0	0	0	88
Brown trout	0.0005	0.0145	0	1	0	0	0	0	0	1
Lake trout	0.1370	4.1449	0	13	151	122	0	0	0	286
Yellow perch	0.0096	0.2899	0	0	0	0	20	0	0	20
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	1	0	0	0	0	1
Angler hours			83	617	538	688	161	0	0	2,087
Angler trips			13	85	99	100	21	0	0	318
Anglers										
Resident			13	11	8	5	10	0	0	47
Nonresident			0	74	91	95	11	0	0	271
Charter excursions			4	20	21	20	4	0	0	69

Appendix 3.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at St. Joseph/Benton Harbor, Lake Michigan, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0604	2.0155	370	491	711	505	116	20	0	2,213
Chinook salmon	0.0725	2.4180	39	744	315	333	785	428	11	2,655
Rainbow trout	0.1246	4.1594	281	2,357	851	440	529	105	4	4,567
Brown trout	0.0062	0.2067	40	71	15	19	73	7	2	227
Lake trout	0.0360	1.2013	0	278	535	283	215	8	0	1,319
Yellow perch	0.0635	2.1193	0	0	46	579	1,275	427	0	2,327
Walleye	0.0002	0.0055	0	0	0	0	6	0	0	6
Other	0.0001	0.0036	0	1	0	0	3	0	0	4
Lamprey on chinook salmon			0	0	0	0	1	0	0	1
Lamprey on lake trout			0	0	3	0	1	0	0	4
Angler hours			2,336	10,210	7,135	5,763	7,837	3,232	131	36,644
Angler trips			351	1,389	1,016	835	1,116	483	23	5,213
Anglers										
Resident			140	520	302	200	306	157	6	1,631
Nonresident			211	869	714	635	810	326	17	3,582
Charter excursions			85	286	209	174	232	104	8	1,098

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, 1996.

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	0.0074	0.2226	0	12	81	45	0	0	0	0	0	0	0	1	1	0	0	140
Chinook salmon	0.0137	0.4086	0	0	2	0	0	0	0	0	0	0	0	180	74	0	1	257
Rainbow trout	0.1256	3.7520	28	97	239	233	0	9	6	6	6	32	507	905	298	2,360		
Brown trout	0.0128	0.3831	9	19	87	73	0	0	0	0	0	4	28	8	13	241		
Lake trout	0.0001	0.0016	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walleye	0.0247	0.7377	36	14	2	0	0	48	156	121	40	4	25	18	464			
Other	0.0160	0.4785	0	0	5	56	0	14	122	51	8	45	0	0	301			
Angler hours			413	1,017	2,953	2,159	0	134	647	559	2,118	2,809	3,954	2,033	18,796			
Angler trips			54	136	378	292	0	19	85	70	262	395	544	280	2,515			
Anglers																		
Resident			13	24	100	116	0	5	37	28	67	135	139	98	762			
Nonresident			41	112	278	176	0	14	48	42	195	260	405	182	1,753			
Charter excursions			15	38	113	77	0	6	25	21	77	110	139	71	692			

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0012	0.1002	5	12	13	6	18	4	0	58
Chinook salmon	0.0125	1.0052	2	71	76	92	284	57	0	582
Rainbow trout	0.0041	0.3282	0	83	50	25	22	10	0	190
Brown trout	0.0014	0.1140	0	7	8	17	31	3	0	66
Lake trout	0.0053	0.4283	0	17	36	66	123	6	0	248
Yellow perch	0.7608	61.1572	9,902	8,134	5,639	5,203	6,356	176	0	35,410
Walleye	0.0015	0.1209	0	0	0	70	0	0	0	70
Other	0.0001	0.0052	0	2	0	0	1	0	0	3
Lamprey on chinook salmon			0	0	0	0	1	0	0	1
Lamprey on lake trout			0	0	1	0	3	0	0	4
Angler hours			8,785	9,140	8,693	8,645	10,264	1,015	0	46,542
Angler trips			1,776	1,798	1,721	1,719	2,054	195	0	9,263
Anglers										
Resident			1,136	1,263	900	931	1,100	136	0	5,466
Nonresident			640	535	821	788	954	59	0	3,797
Charter excursions			85	106	101	119	150	18	0	579

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0218	0.6277	70	57	104	47	105	25	0	408
Chinook salmon	0.1623	4.6754	38	244	324	811	1,255	367	0	3,039
Rainbow trout	0.0985	2.8369	16	787	791	55	172	23	0	1,844
Brown trout	0.0261	0.7508	122	70	29	82	160	25	0	488
Lake trout	0.0640	1.8431	4	237	274	249	403	31	0	1,198
Yellow perch	0.0628	1.8077	0	0	15	732	428	0	0	1,175
Walleye	0.0101	0.2908	5	0	0	183	0	1	0	189
Other	0.0011	0.0308	0	0	0	15	3	2	0	20
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	2	4	1	3	0	0	10
Angler hours			912	3,091	3,676	4,038	5,607	1,397	0	18,721
Angler trips			138	500	512	601	766	213	0	2,730
Anglers										
Resident			90	394	362	391	452	136	0	1,825
Nonresident			48	106	150	210	314	77	0	905
Charter excursions			34	117	120	142	181	56	0	650

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0114	0.2887	0	5	22	9	16	2	2	56
Chinook salmon	0.1403	3.5361	1	35	69	145	357	56	23	686
Rainbow trout	0.0493	1.2423	0	84	86	17	39	8	7	241
Brown trout	0.0174	0.4381	1	14	12	31	20	6	1	85
Lake trout	0.0785	1.9794	0	43	61	70	196	14	0	384
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	0.0052	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	0	0	0	1	0	0	1
Angler hours			12	479	985	974	1,960	367	114	4,891
Angler trips			3	79	148	164	332	64	23	813
Anglers										
Resident			3	51	90	115	185	39	23	506
Nonresident			0	28	58	49	147	25	0	307
Charter excursions			1	21	36	37	78	14	7	194



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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0074	0.1853	0	3	14	47	153	48	2	267
Chinook salmon	0.1634	4.0881	3	1,127	849	1,239	1,685	950	38	5,891
Rainbow trout	0.0262	0.6558	1	149	394	84	278	30	9	945
Brown trout	0.0113	0.2831	5	54	15	141	157	33	3	408
Lake trout	0.0365	0.9133	0	193	255	345	497	26	0	1,316
Yellow perch	0.0169	0.4219	0	0	64	286	258	0	0	608
Walleye	0.0001	0.0021	0	0	0	0	0	3	0	3
Other	0.0008	0.0201	0	0	1	0	18	10	0	29
Lamprey on chinook salmon			0	1	2	0	2	1	0	6
Lamprey on lake trout			0	1	2	0	0	0	0	3
Angler hours			77	5,391	6,644	7,710	11,313	4,791	119	36,045
Angler trips			15	942	1,117	1,328	1,944	833	22	6,201
Anglers										
Resident			7	759	953	1,080	1,595	722	17	5,133
Nonresident			8	183	164	248	349	111	5	1,068
Charter excursions			4	230	250	301	450	200	6	1,441

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0182	0.4072	0	9	5	8	35	20	2	79
Chinook salmon	0.1055	2.3557	0	27	69	86	165	82	28	457
Rainbow trout	0.0395	0.8814	0	9	28	14	78	37	5	171
Brown trout	0.0127	0.2835	0	3	7	11	19	11	4	55
Lake trout	0.0122	0.2732	0	6	13	16	12	6	0	53
Yellow perch	0.0005	0.0103	0	0	0	2	0	0	0	2
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0014	0.0309	0	1	0	1	0	4	0	6
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			0	275	759	894	1,662	710	33	4,333
Angler trips			0	51	135	177	294	135	8	800
Anglers										
Resident			0	39	108	146	238	119	8	658
Nonresident			0	12	27	31	56	16	0	142
Charter excursions			0	13	32	45	70	31	3	194

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0375	0.8500	0	0	1	7	45	15	0	68
Chinook salmon	0.1175	2.6625	0	1	17	48	91	56	0	213
Rainbow trout	0.0640	1.4500	0	2	11	10	77	16	0	116
Brown trout	0.0055	0.1250	0	2	1	3	1	3	0	10
Lake trout	0.0160	0.3625	0	4	6	9	9	1	0	29
Yellow perch	0.0017	0.0375	0	0	0	3	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	0	0	0	0	0	0	0
Angler hours			0	76	196	496	737	307	0	1,812
Angler trips			0	16	25	80	125	55	0	301
Anglers										
Resident			0	16	13	32	78	33	0	172
Nonresident			0	0	12	48	47	22	0	129
Charter excursions			0	4	7	21	34	14	0	80

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0317	0.7565	0	2	2	30	150	49	0	233
Chinook salmon	0.1322	3.1591	0	20	108	370	390	85	0	973
Rainbow trout	0.0999	2.3864	0	88	213	144	141	149	0	735
Brown trout	0.0166	0.3961	0	7	2	72	38	3	0	122
Lake trout	0.0682	1.6299	0	66	117	166	141	12	0	502
Yellow perch	0.0158	0.3766	0	0	0	83	33	0	0	116
Walleye	0.0020	0.0487	0	15	0	0	0	0	0	15
Other	0.0003	0.0065	0	0	1	0	1	0	0	2
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	355	993	2,524	2,912	577	0	7,361
Angler trips			0	61	158	403	457	94	0	1,173
Anglers										
Resident			0	44	118	226	273	80	0	741
Nonresident			0	17	40	177	184	14	0	432
Charter excursions			0	20	40	99	122	27	0	308

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0380	1.1257	2	2	32	114	961	279	7	1,397
Chinook salmon	0.1373	4.0620	3	48	353	1,215	2,390	957	75	5,041
Rainbow trout	0.1117	3.3054	2	236	1,174	708	882	1,096	4	4,102
Brown trout	0.0157	0.4641	111	103	50	128	161	22	1	576
Lake trout	0.0625	1.8501	0	176	382	766	907	65	0	2,296
Yellow perch	0.0010	0.0306	0	35	0	3	0	0	0	38
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0005	0.0153	0	2	1	2	12	2	0	19
Lamprey on chinook salmon			0	0	1	1	4	0	0	6
Lamprey on lake trout			0	1	1	3	4	1	0	10
Angler hours			458	1,233	4,435	8,984	16,029	5,429	148	36,716
Angler trips			64	194	660	1,270	2,281	752	27	5,248
Anglers										
Resident			48	134	516	978	1,730	608	24	4,038
Nonresident			16	60	144	292	551	144	3	1,210
Charter excursions			18	50	153	291	546	176	7	1,241

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0293	0.8627	2	4	34	86	384	137	0	647
Chinook salmon	0.1139	3.3560	6	36	529	495	1,120	321	10	2,517
Rainbow trout	0.1121	3.3027	4	37	1,026	668	360	304	78	2,477
Brown trout	0.0331	0.9747	353	225	28	45	53	10	17	731
Lake trout	0.0627	1.8480	0	73	378	570	337	28	0	1,386
Yellow perch	0.0000	0.0013	0	0	1	0	0	0	0	1
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0001	0.0027	0	1	1	0	0	0	0	2
Lamprey on chinook salmon			0	0	1	1	4	2	0	8
Lamprey on lake trout			0	0	8	6	0	1	0	15
Angler hours			1,001	1,005	4,647	5,540	7,659	1,762	477	22,091
Angler trips			149	172	625	792	1,065	261	60	3,124
Anglers										
Resident			141	138	536	698	874	239	45	2,671
Nonresident			8	34	89	94	191	22	15	453
Charter excursions			36	46	148	178	261	63	18	750

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0220	0.6353	0	0	1	30	57	20	0	108
Chinook salmon	0.1151	3.3235	0	6	58	197	249	55	0	565
Rainbow trout	0.1226	3.5412	0	12	157	271	85	77	0	602
Brown trout	0.0112	0.3235	0	20	6	11	11	7	0	55
Lake trout	0.0747	2.1588	0	19	88	180	77	3	0	367
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	0.0294	0	0	0	0	0	5	0	5
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			0	170	785	1,884	1,394	677	0	4,910
Angler trips			0	28	93	251	190	104	0	666
Anglers										
Resident			0	27	92	193	164	47	0	523
Nonresident			0	1	1	58	26	57	0	143
Charter excursions			0	6	23	67	50	24	0	170

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0694	1.7818	0	1	0	13	793	923	9	1,739
Chinook salmon	0.0750	1.9262	0	2	176	475	1,053	158	16	1,880
Rainbow trout	0.0315	0.8094	0	0	276	129	106	269	10	790
Brown trout	0.0091	0.2346	14	65	29	40	73	7	1	229
Lake trout	0.1590	4.0820	0	184	580	1,819	1,384	17	0	3,984
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	0.0005	0.0123	0	1	3	3	5	0	0	12
Lamprey on chinook salmon			0	0	0	0	1	0	0	1
Lamprey on lake trout			0	3	4	5	8	0	0	20
Angler hours			60	849	2,678	6,671	10,795	3,885	120	25,058
Angler trips			10	150	456	1,067	1,759	621	20	4,083
Anglers										
Resident			8	128	407	824	1,491	515	17	3,390
Nonresident			2	22	49	243	268	106	3	693
Charter excursions			3	39	116	247	419	147	5	976



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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0039	0.0912	0	0	0	13	30	15	0	58
Chinook salmon	0.0759	1.7956	0	2	86	375	412	267	0	1,142
Rainbow trout	0.0358	0.8459	0	0	261	259	11	7	0	538
Brown trout	0.0067	0.1588	0	53	19	12	13	4	0	101
Lake trout	0.2766	6.5440	0	341	656	1,630	1,441	94	0	4,162
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	0.0009	0.0204	0	0	5	4	4	0	0	13
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	1	6	18	19	0	0	44
Angler hours			0	950	2,406	5,952	4,935	803	0	15,046
Angler trips			0	211	434	1,056	968	165	0	2,834
Anglers										
Resident			0	172	366	805	643	140	0	2,126
Nonresident			0	39	68	251	325	25	0	708
Charter excursions			0	48	94	230	222	42	0	636

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0117	0.1679	0	2	0	0	26	19	0	47
Chinook salmon	0.0572	0.8179	0	2	11	4	79	133	0	229
Rainbow trout	0.0017	0.0250	0	0	3	4	0	0	0	7
Brown trout	0.0067	0.0964	0	3	3	14	7	0	0	27
Lake trout	0.2092	2.9929	0	104	268	251	184	31	0	838
Yellow perch	0.0325	0.4643	0	0	0	0	0	130	0	130
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0027	0.0393	0	1	4	6	0	0	0	11
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	0	1	3	4	0	0	8
Angler hours			0	344	714	804	1,158	985	0	4,005
Angler trips			0	75	183	200	294	248	0	1,000
Anglers										
Resident			0	57	136	153	191	159	0	696
Nonresident			0	18	47	47	103	89	0	304
Charter excursions			0	19	47	54	91	69	0	280

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0028	0.0438	0	1	0	0	2	11	0	14
Chinook salmon	0.0390	0.6156	0	0	10	1	35	151	0	197
Rainbow trout	0.0010	0.0156	0	1	3	0	0	1	0	5
Brown trout	0.0133	0.2094	0	3	13	9	34	8	0	67
Lake trout	0.0372	0.5875	0	14	53	55	46	20	0	188
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	0.0044	0.0688	0	0	2	15	5	0	0	22
Lamprey on chinook salmon			0	0	0	0	0	5	0	5
Lamprey on lake trout			0	0	0	0	0	0	0	0
Angler hours			0	332	798	1,145	1,476	1,303	0	5,054
Angler trips			0	85	204	297	381	334	0	1,301
Anglers										
Resident			0	81	107	176	277	224	0	865
Nonresident			0	4	97	121	104	110	0	436
Charter excursions			0	19	51	73	95	82	0	320

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0007	0.0155	0	0	0	2	0	3	0	5
Chinook salmon	0.0145	0.3075	0	1	0	3	43	52	0	99
Rainbow trout	0.0001	0.0031	0	0	0	0	1	0	0	1
Brown trout	0.0006	0.0124	0	0	0	0	3	1	0	4
Lake trout	0.2466	5.2267	0	49	258	635	695	46	0	1,683
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0001	0.0031	0	0	1	0	0	0	0	1
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	1	7	5	0	0	14
Angler hours			0	133	834	2,159	2,816	871	13	6,826
Angler trips			0	32	186	463	583	181	3	1,448
Anglers										
Resident			0	19	103	263	296	77	1	759
Nonresident			0	13	83	200	287	104	2	689
Charter excursions			0	8	44	103	125	41	1	322

Appendix 20.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats at Harbor Springs/Petoskey, Lake Michigan, 1996.

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	0.0271	0.3770	0	0	0	2	7	14	0	23
Rainbow trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Brown trout	0.0071	0.0984	0	0	1	1	4	0	0	6
Lake trout	0.3526	4.9016	0	0	55	150	75	19	0	299
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	4	3	3	0	0	10
Angler hours			0	0	152	292	300	104	0	848
Angler trips			0	0	38	69	75	26	0	208
Anglers										
Resident			0	0	25	49	42	9	0	125
Nonresident			0	0	13	20	33	17	0	83
Charter excursions			0	0	11	20	21	9	0	61

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0012	0.0207	0	0	0	0	4	0	0	4
Chinook salmon	0.2822	4.7513	0	0	0	167	533	215	2	917
Rainbow trout	0.0237	0.3990	0	0	0	19	57	1	0	77
Brown trout	0.0034	0.0570	0	0	0	3	8	0	0	11
Lake trout	0.0419	0.7047	0	0	4	85	47	0	0	136
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	0.0071	0.1192	0	0	0	0	23	0	0	23
Lamprey on chinook salmon			0	0	0	8	18	6	0	32
Lamprey on lake trout			0	0	0	2	1	0	0	3
Angler hours			0	0	10	762	1,892	575	10	3,249
Angler trips			0	0	2	174	373	123	2	674
Anglers										
Resident			0	0	2	120	272	79	2	475
Nonresident			0	0	0	54	101	44	0	199
Charter excursions			0	0	1	48	107	36	1	193

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0105	0.1818	0	0	0	2	24	0	0	26
Chinook salmon	0.2495	4.3287	0	0	4	108	472	35	0	619
Rainbow trout	0.0423	0.7343	0	0	1	14	90	0	0	105
Brown trout	0.0048	0.0839	0	0	0	4	8	0	0	12
Lake trout	0.0983	1.7063	0	0	9	85	148	2	0	244
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	0.0250	0.4336	0	0	0	13	48	1	0	62
Lamprey on chinook salmon			0	0	0	11	36	3	0	50
Lamprey on lake trout			0	0	0	7	3	0	0	10
Angler hours			0	0	68	542	1,755	116	0	2,481
Angler trips			0	0	16	110	317	27	0	470
Anglers										
Resident			0	0	5	73	222	13	0	313
Nonresident			0	0	11	37	95	14	0	157
Charter excursions			0	0	6	39	90	8	0	143

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0024	0.0488	0	0	0	2	6	0	0	8
Chinook salmon	0.0960	1.9207	0	1	24	133	139	18	0	315
Rainbow trout	0.0308	0.6159	0	0	4	28	69	0	0	101
Brown trout	0.0518	1.0366	9	40	16	42	38	25	0	170
Lake trout	0.0768	1.5366	0	19	66	80	87	0	0	252
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0091	0.1829	2	24	3	0	1	0	0	30
Other	0.0119	0.2378	0	2	1	13	23	0	0	39
Lamprey on chinook salmon			0	0	0	4	9	0	0	13
Lamprey on lake trout			0	0	4	1	7	0	0	12
Angler hours			15	246	387	1,171	1,338	124	0	3,281
Angler trips			3	52	74	187	224	25	0	565
Anglers										
Resident			3	41	59	165	200	21	0	489
Nonresident			0	11	15	22	24	4	0	76
Charter excursions			1	16	21	58	58	10	0	164



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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0021	0.0339	0	0	0	0	6	0	0	6
Chinook salmon	0.1429	2.2994	0	0	34	109	244	20	0	407
Rainbow trout	0.0249	0.4011	0	0	4	9	51	7	0	71
Brown trout	0.0042	0.0678	0	1	2	3	6	0	0	12
Lake trout	0.0835	1.3446	0	7	18	86	124	3	0	238
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0004	0.0056	0	0	0	0	0	1	0	1
Other	0.0035	0.0565	0	0	8	1	1	0	0	10
Lamprey on chinook salmon			0	0	0	5	4	0	0	9
Lamprey on lake trout			0	0	0	5	2	0	0	7
Angler hours			0	39	328	610	1,654	218	0	2,849
Angler trips			0	9	69	118	304	45	0	545
Anglers										
Resident			0	9	65	113	288	43	0	518
Nonresident			0	0	4	5	16	2	0	27
Charter excursions			0	4	23	41	93	16	0	177

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0017	0.0360	0	0	0	1	8	8	0	17
Chinook salmon	0.1571	3.2627	0	18	142	276	720	357	27	1,540
Rainbow trout	0.0426	0.8856	0	7	57	117	192	45	0	418
Brown trout	0.0031	0.0636	0	4	3	5	16	2	0	30
Lake trout	0.0943	1.9597	0	26	174	272	407	46	0	925
Yellow perch	0.0001	0.0021	0	0	0	0	1	0	0	1
Walleye	0.0012	0.0254	0	0	2	1	9	0	0	12
Other	0.0029	0.0593	0	0	23	4	1	0	0	28
Lamprey on chinook salmon			0	0	7	18	29	19	0	73
Lamprey on lake trout			0	0	9	14	7	1	0	31
Angler hours			0	434	1,346	2,305	4,261	1,406	54	9,806
Angler trips			0	65	217	387	690	236	9	1,604
Anglers										
Resident			0	51	189	336	612	208	5	1,401
Nonresident			0	14	28	51	78	28	4	203
Charter excursions			0	21	64	115	197	71	4	472

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, 1996.

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	0.0205	0.5718	0	21	53	28	90	31	0	223
Rainbow trout	0.0051	0.1436	0	2	12	12	28	2	0	56
Brown trout	0.0099	0.2769	0	1	2	50	53	2	0	108
Lake trout	0.0273	0.7615	0	52	71	56	103	15	0	297
Yellow perch	0.1391	3.8795	0	0	251	558	456	89	159	1,513
Walleye	0.1615	4.5026	0	0	10	948	762	36	0	1,756
Other	0.0165	0.4590	0	0	32	98	49	0	0	179
Lamprey on chinook salmon			0	0	7	0	1	0	0	8
Lamprey on lake trout			0	1	3	0	0	0	0	4
Angler hours			0	246	1,198	4,487	4,359	559	25	10,874
Angler trips			0	41	210	780	793	114	5	1,943
Anglers										
Resident			0	41	190	715	753	106	5	1,810
Nonresident			0	0	20	65	40	8	0	133
Charter excursions			0	14	43	160	154	18	1	390

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0068	0.1419	0	4	35	6	17	5	0	67
Chinook salmon	0.1153	2.4004	0	292	221	94	407	119	0	1,133
Rainbow trout	0.0301	0.6271	0	26	70	66	119	15	0	296
Brown trout	0.0017	0.0360	0	0	5	3	9	0	0	17
Lake trout	0.2290	4.7691	0	290	538	619	769	35	0	2,251
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0064	0.1335	0	0	0	58	4	1	0	63
Other	0.0069	0.1441	0	11	34	20	3	0	0	68
Lamprey on chinook salmon			0	10	4	4	16	0	0	34
Lamprey on lake trout			0	5	0	5	13	0	0	23
Angler hours			0	1,745	2,489	2,437	2,752	407	0	9,830
Angler trips			0	286	447	413	473	77	0	1,696
Anglers										
Resident			0	265	406	377	428	77	0	1,553
Nonresident			0	21	41	36	45	0	0	143
Charter excursions			0	79	116	122	133	22	0	472

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0063	0.1382	0	3	1	1	8	17	0	30
Chinook salmon	0.1034	2.2627	7	35	71	24	161	158	35	491
Rainbow trout	0.0497	1.0876	0	10	23	10	128	61	4	236
Brown trout	0.0029	0.0645	1	5	2	3	0	3	0	14
Lake trout	0.1374	3.0046	0	112	75	167	271	24	3	652
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	0.0184	0	0	0	4	0	0	0	4
Lamprey on chinook salmon			0	0	0	1	0	2	0	3
Lamprey on lake trout			0	0	0	2	1	0	0	3
Angler hours			45	827	618	570	1,609	961	117	4,747
Angler trips			9	134	101	102	289	174	27	836
Anglers										
Resident			9	124	94	81	285	170	23	786
Nonresident			0	10	7	21	4	4	4	50
Charter excursions			2	38	27	26	71	46	7	217

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0100	0.1918	0	3	8	3	0	0	0	14
Chinook salmon	0.1327	2.5342	0	132	51	2	0	0	0	185
Rainbow trout	0.0330	0.6301	0	21	23	2	0	0	0	46
Brown trout	0.0108	0.2055	0	15	0	0	0	0	0	15
Lake trout	0.0129	0.2466	0	5	10	3	0	0	0	18
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	0.0222	0.4247	0	0	31	0	0	0	0	31
Lamprey on chinook salmon			0	4	0	0	0	0	0	4
Lamprey on lake trout			0	0	0	0	0	0	0	0
Angler hours			0	908	394	92	0	0	0	1,394
Angler trips			0	160	73	16	0	0	0	249
Anglers										
Resident			0	160	63	13	0	0	0	236
Nonresident			0	0	10	3	0	0	0	13
Charter excursions			0	44	23	6	0	0	0	73

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0154	0.4314	2	7	6	0	7	0	0	22
Chinook salmon	0.1055	2.9608	10	59	40	9	33	0	0	151
Rainbow trout	0.0231	0.6471	2	8	16	6	1	0	0	33
Brown trout	0.0161	0.4510	7	14	0	1	1	0	0	23
Lake trout	0.0112	0.3137	0	3	8	3	2	0	0	16
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	0.0007	0.0196	0	1	0	0	0	0	0	1
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			168	566	377	232	88	0	0	1,431
Angler trips			24	93	58	44	18	0	0	237
Anglers										
Resident			24	64	58	33	18	0	0	197
Nonresident			0	29	0	11	0	0	0	40
Charter excursions			5	23	10	9	4	0	0	51

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0467	2.2785	0	5	120	44	1	8	2	180
Chinook salmon	0.0021	0.1013	0	0	5	1	2	0	0	8
Rainbow trout	0.0099	0.4810	0	0	27	8	1	1	1	38
Brown trout	0.0005	0.0253	0	1	0	1	0	0	0	2
Lake trout	0.2272	11.0886	0	18	363	195	176	121	3	876
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	5	3	1	0	9
Angler hours			0	106	1,534	843	903	445	25	3,856
Angler trips			0	11	179	116	112	70	5	493
Anglers										
Resident			0	3	66	26	38	19	1	153
Nonresident			0	8	113	90	74	51	4	340
Charter excursions			0	2	27	19	18	12	1	79



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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0370	1.1961	0	15	37	9	0	0	0	61
Chinook salmon	0.0200	0.6471	0	0	15	17	1	0	0	33
Rainbow trout	0.0006	0.0196	0	0	0	0	0	1	0	1
Brown trout	0.0012	0.0392	0	0	2	0	0	0	0	2
Lake trout	0.4347	14.0392	0	0	87	315	263	51	0	716
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	0.0006	0.0196	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	0	1	3	2	1	0	7
Angler hours			0	40	330	628	513	136	0	1,647
Angler trips			0	5	51	110	88	17	0	271
Anglers										
Resident			0	0	18	25	36	11	0	90
Nonresident			0	5	33	85	52	6	0	181
Charter excursions			0	1	10	21	16	3	0	51

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0040	0.1630	0	0	2	1	4	15	0	22
Chinook salmon	0.0013	0.0519	0	0	2	1	0	4	0	7
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	0.3174	12.7778	0	0	375	712	494	144	0	1,725
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	0	3	0	0	3
Angler hours			0	0	1,361	2,256	1,436	383	0	5,436
Angler trips			0	0	129	277	190	55	0	651
Anglers										
Resident			0	0	103	214	148	42	0	507
Nonresident			0	0	26	63	42	13	0	144
Charter excursions			0	0	27	53	40	15	0	135

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, 1996.

Species	Total catch per hour	Total catch per excursion	Month							Season
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0094	0.2945	0	0	0	0	10	0	38	48
Chinook salmon	0.0004	0.0123	0	0	0	0	1	0	1	2
Rainbow trout	0.0029	0.0920	0	0	0	3	11	0	1	15
Brown trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Lake trout	0.2448	7.6626	0	0	67	331	829	2	20	1,249
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	3	6	0	0	9
Angler hours			0	0	336	1,310	3,337	12	108	5,103
Angler trips			0	0	54	180	448	6	30	718
Anglers										
Resident			0	0	18	57	54	0	0	129
Nonresident			0	0	36	123	394	6	30	589
Charter excursions			0	0	16	43	98	1	5	163