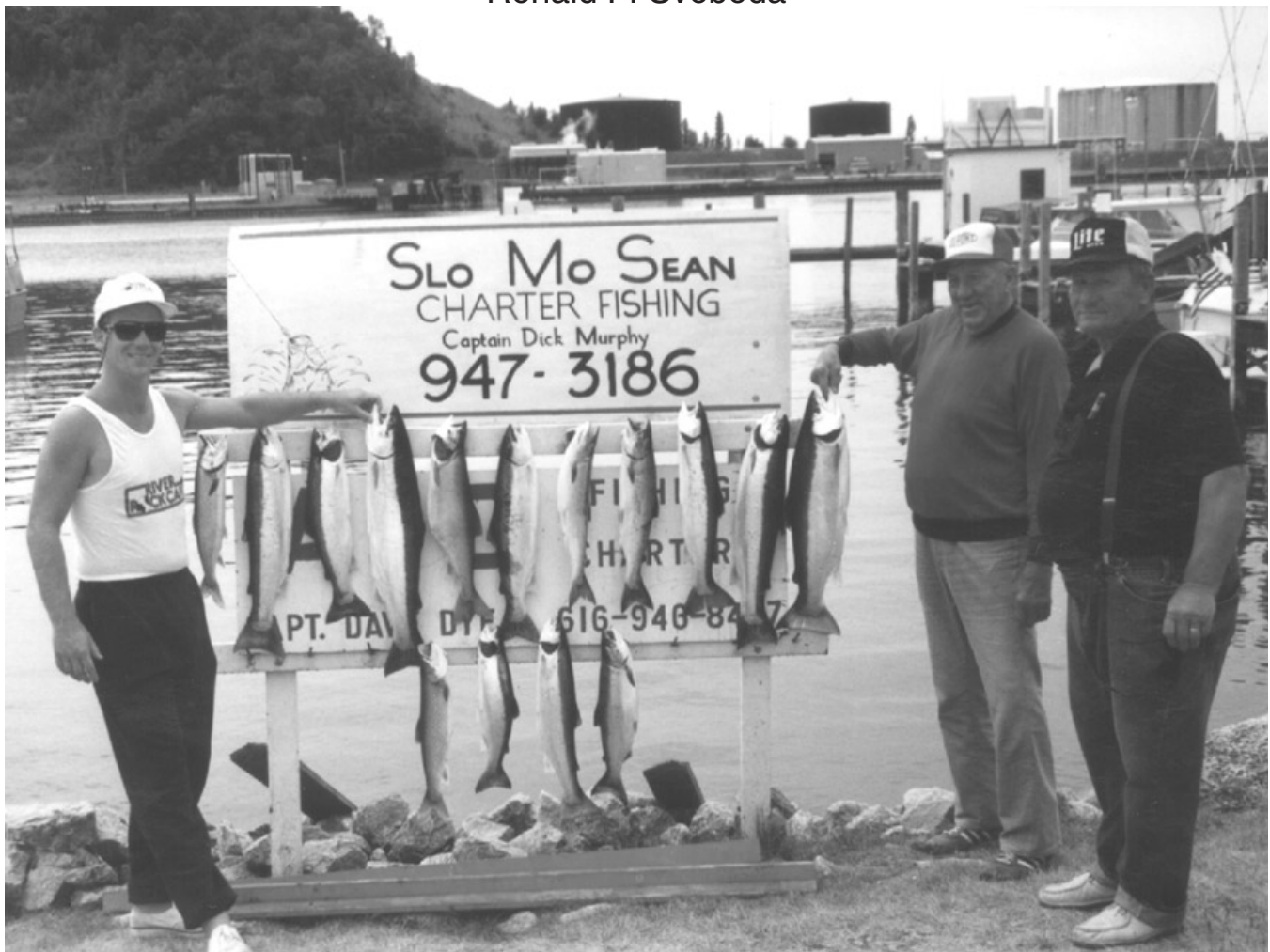


# Charter Boat Catch and Effort from the Michigan Waters of the Great Lakes, 1994

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Ronald F. Svoboda



**MICHIGAN DEPARTMENT OF NATURAL RESOURCES  
FISHERIES DIVISION**

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## **Charter Boat Catch and Effort from the Michigan Waters of the Great Lakes, 1994**

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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-seven percent of the 527 charter fishing operators complied with the law by returning their completed catch reporting forms in 1994. These operators reported making 14,713 charter fishing excursions during April through October. The total number of charter excursions decreased by 805 (-5%) in 1994 compared to 1993. Approximately 400,000 angler hours were spent fishing by some 65,600 charter clients. The distribution of charter fishing excursions was: 69% Lake Michigan, 15% Lake Huron, 11% Lake Erie, 3% Lake Superior, and 2% Lake St. Clair. Over 209,000 fish were reported harvested. The harvest was composed of about 91,000 yellow perch, 37,000 lake trout, 36,000 walleye, 15,000 rainbow trout, 15,000 chinook salmon, 7,900 coho salmon, and 4,000 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 527. 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 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 577 known charter operators during March 1994. 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 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 1994, 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 1995 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 1994 fishing season, an average of 60% of all charter boat operators complied with the law by submitting their catch reports by the due date, while 76% submitted reports within 30 days of the due date. Monthly rate of compliance in 1994 was slightly less (6%) compared to 1993. By the end of the 1994 season, 97% of all charter operators had complied with the law. Final compliance rate for

1994 was similar to the 98% reported for 1993 (Rakoczy and Svoboda 1994).

### *Catch and effort*

Charter operators submitted reports on 14,713 charter excursions during April through October, 1994 on lakes Michigan, Huron, Erie, Superior and St. Clair (Tables 1 through 5). The total number of charter excursions in 1994 decreased by 805 (-5%) compared to 1993 (Rakoczy and Svoboda 1994). Decreases in the number of charter excursions in 1994 as compared to 1993 occurred on all lakes. The greatest declines occurred on lakes St. Clair (-28%) and Superior (-26%). Lakes Michigan and Huron had slight declines in the number of excursions in 1994 compared to 1993, while Lake Erie had a 12% decline. The distribution of charter fishing effort (excursions) by lake was: 69% Lake Michigan, 15% Lake Huron, 11% Lake Erie, 3% Lake Superior, and 2% Lake St. Clair. The distribution of charter fishing effort by lake in 1994 was very similar to previous years.

A total of 399,968 hours were spent fishing by 65,642 charter anglers in Michigan's waters and tributaries of the Great Lakes. The total number of charter anglers in 1993 decreased by 2,669 (-4%) compared to 1993. Lake Michigan was the only lake which had more charter anglers (+1%) and hours fished (+2%) in 1994 than the previous year. Thirty-two percent of all charter clients were not residents of Michigan. Lake Superior charter operators had the greatest percentage of nonresident clients (60%; Table 4), while Lake St. Clair charter captains had the lowest percentage (5%; Table 5).

A total of 209,000 fish were reported harvested in all lakes. Lake Michigan accounted for 66% of all fish harvested, while lakes Erie and Huron accounted for 21% and 6%, respectively, of the total harvest. The most numerous species in the harvest was yellow perch (90,700) which accounted for 43% of the total harvest. Numbers of other species harvested were: 36,800 lake trout (18%), 35,600 walleye (17%), 15,500 rainbow trout (7%), 15,000 chinook salmon (7%), 7,900 coho

salmon (4%), and 4,100 brown trout (2%). The "other" species category was 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 by species during 1994 increased compared to 1993, except for coho salmon. The numbers of yellow perch and walleye harvested declined compared to 1993.

In the salmonine species complex, the numbers of chinook salmon, rainbow trout and lake trout harvested during 1994 increased slightly compared to 1993. The numbers of brown trout increased by 46% compared to 1993, while the coho salmon harvested declined by 39%. Most of the increase in the brown trout harvest and decrease in the coho salmon harvest occurred on Lake Michigan.

The walleye harvest declined 10,900 fish (-23%) during 1994 compared to 1993. This was due to a 23% decrease in the harvest of walleye on Lake Erie compared to 1993.

Catch rates (fish per 100 angler hours) by Lake Michigan charter anglers in 1994 as compared to 1993 increased slightly for rainbow trout and lake trout (Table 6). Catch rates for chinook salmon were unchanged in 1994 compared to 1993 on Lake Michigan, while rates for coho salmon declined by 42% and catch rates for brown trout increased by 57%. On Lake Huron, catch rates increased for brown (+24%), lake trout (+47%) and chinook salmon (+15%) compared to 1993. Catch rates were virtually unchanged in Lake Huron during 1994 for rainbow trout and coho salmon compared to 1993. 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 five seasons.

Walleyes play an important role in charter fisheries on Lakes Erie, Huron, and St. Clair. Catch rates for walleyes by charter clients decreased on all three lakes in 1994 as compared to 1993 (Table 7). Many Lake Erie and St. Clair charter captains commented that the clear water conditions have made fishing for walleye more difficult the past two seasons.

They attribute the increased water clarity to the presence of zebra mussels.

The greatest catch per charter excursion on Michigan's waters of the Great Lakes for coho salmon, rainbow trout and yellow perch occurred at Lake Michigan ports (Table 8). Charter anglers departing from Michigan City, Indiana, but fishing in the Michigan waters of Lake Michigan had the greatest catch per excursion for coho salmon (3.0). Ludington charter anglers had the greatest catch per excursion for rainbow trout (3.0), while anglers at South Haven had the highest catch rate of yellow perch (114.4). Lake Huron charter anglers fishing out of Rogers City and Alpena had the best catch rates for chinook salmon (4.3) and brown trout (2.0), respectively. In 1994, for the second year, the best catch rate for chinook salmon did not occur at the Lake Michigan port of Leland. The greatest catch rate for lake trout (12.1 per excursion) occurred at Black River Harbor, Lake Superior. The best catch per

excursion for walleye (18.6) was noted for charter anglers at Monroe, Lake Erie.

As has been the case in previous years (1990-93), 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 1994 was 3.3, as compared to 0.6 for Lake Michigan and 1.1 for Lake Superior. Charter captains also reported 7.1 lamprey per 100 chinook salmon harvested on Lake Huron during 1994 as compared to 0.3 for Lake Michigan and none for Lake Superior.

### **Acknowledgments**

The authors wish to thank the Michigan Charter Boat Association for their support throughout the season. Evelyn Davis entered the data on computer.



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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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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0261	0.7467	1,078	1,912	682	380	1,611	1,814	77	7,554
Chinook salmon	0.0398	1.1383	340	2,599	1,306	1,679	3,802	1,623	166	11,515
Rainbow trout	0.0515	1.4730	371	2,464	2,920	3,456	3,490	1,731	469	14,901
Brown trout	0.0111	0.3167	1,154	677	309	487	415	136	26	3,204
Lake trout	0.1042	2.9830	94	4,771	6,150	10,263	8,034	848	16	30,176
Yellow perch	0.2369	6.7790	22,742	10,352	4,397	9,716	6,992	13,054	1,323	68,576
Walleye	0.0029	0.0837	1	10	328	187	268	42	11	847
Other	0.0011	0.0302	18	10	49	58	33	117	21	306
Lamprey on chinook salmon			0	6	5	5	17	0	0	33
Lamprey on lake trout			0	23	55	48	39	5	0	170
Angler hours			11,901	37,162	49,121	72,424	81,014	33,412	4,486	289,520
Angler trips			1,996	5,807	7,677	11,537	13,215	5,524	700	46,456
Anglers										
Resident			1,383	3,315	4,547	7,273	8,503	3,741	466	29,228
Nonresident			613	2,492	3,130	4,264	4,712	1,783	234	17,228
Charter excursions			329	1,167	1,651	2,534	2,977	1,279	179	10,116



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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0026	0.0495	0	14	12	7	53	14	8	108
Chinook salmon	0.0834	1.6104	111	404	286	897	1,224	580	12	3,514
Rainbow trout	0.0125	0.2420	45	73	82	153	116	31	28	528
Brown trout	0.0206	0.3983	125	102	59	248	261	70	4	869
Lake trout	0.0632	1.2204	0	209	547	1,067	734	106	0	2,663
Yellow perch	0.0491	0.9478	0	0	69	366	601	1,032	0	2,068
Walleye	0.0674	1.3011	19	37	6	1,337	1,401	38	1	2,839
Other	0.0099	0.1920	0	2	7	153	201	56	0	419
Lamprey on chinook salmon			2	13	14	80	104	34	1	248
Lamprey on lake trout			0	9	4	41	31	4	0	89
Angler hours			1,292	4,054	4,487	12,632	14,727	4,649	275	42,114
Angler trips			227	719	807	2,223	2,644	869	54	7,543
Anglers										
Resident			206	668	716	1,933	2,236	694	48	6,501
Nonresident			21	51	91	290	408	175	6	1,042
Charter excursions			67	203	231	644	754	262	21	2,182

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0000	0.0012	0	0	2	0	0	0	0	2
Chinook salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Rainbow trout	0.0002	0.0042	0	2	4	0	0	1	0	7
Brown trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Lake trout	0.0009	0.0253	0	0	42	0	0	0	0	42
Yellow perch	0.2874	7.6713	0	316	380	402	2,487	6,788	2,369	12,742
Walleye	0.6964	18.5912	79	8,628	15,202	6,639	284	4	44	30,880
Other	0.0204	0.5455	0	234	464	191	16	1	0	906
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			173	10,753	20,813	8,731	1,184	1,734	953	44,341
Angler trips			33	1,964	3,857	1,674	214	346	183	8,271
Anglers										
Resident			33	1,726	3,158	1,476	199	327	171	7,090
Nonresident			0	238	699	198	15	19	12	1,181
Charter excursions			7	394	768	337	49	71	35	1,661

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0160	0.5451	0	10	82	55	59	42	0	248
Chinook salmon	0.0008	0.0264	0	2	0	6	1	3	0	12
Rainbow trout	0.0028	0.0967	0	0	8	10	21	5	0	44
Brown trout	0.0010	0.0330	0	15	0	0	0	0	0	15
Lake trout	0.2533	8.6154	0	65	848	1,366	1,227	414	0	3,920
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	0.0022	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	16	15	8	3	0	43
Angler hours			0	275	3,186	5,312	5,307	1,395	0	15,474
Angler trips			0	40	404	706	771	203	0	2,124
Anglers										
Resident			0	36	218	293	228	73	0	848
Nonresident			0	4	186	413	543	130	0	1,276
Charter excursions			0	11	86	149	166	43	0	455

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0008	0.0234	0	7	0	0	0	0	0	7
Chinook salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Rainbow trout	0.0001	0.0033	0	1	0	0	0	0	0	1
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	0.8547	24.3512	0	686	252	1,015	1,313	2,309	1,706	7,281
Walleye	0.1231	3.5084	138	41	267	519	77	7	0	1,049
Other	0.2381	6.7826	0	0	562	887	349	217	13	2,028
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			81	480	1,533	2,766	1,746	1,472	441	8,519
Angler trips			23	81	245	396	239	201	63	1,248
Anglers										
Resident			23	78	235	376	225	190	60	1,187
Nonresident			0	3	10	20	14	11	3	61
Charter excursions			9	20	58	91	56	48	17	299

Table 6.--Catch rates (fish per 100 angler hours) by charter anglers for salmonines on Lakes Michigan, Huron and Superior during 1990-94.

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

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 1990-94.

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

Table 8.—Maximum catch per excursion (number) of principal species by charter anglers on the Great Lakes, 1994.

Species	Catch per Excursion	Location
Coho salmon	3.0	Michigan City, Indiana, Michigan waters of Lake Michigan
Chinook salmon	4.3	Rogers City, Lake Huron
Rainbow trout	3.0	Ludington, Lake Michigan
Brown trout	2.0	Alpena, Lake Huron
Lake trout	12.1	Black River Harbor, Lake Superior
Yellow perch	114.4	South Haven, Lake Michigan
Walleye	18.6	Monroe, Lake Erie

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, 1990-94.

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

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Barbara A. Diana, Word Processor  
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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), 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0881	2.9564	111	1,106	446	82	15	2	0	1,762
Chinook salmon	0.0060	0.1997	6	23	27	20	10	20	13	119
Rainbow trout	0.0655	2.1963	86	917	206	69	29	2	0	1,309
Brown trout	0.0011	0.0352	0	2	0	17	2	0	0	21
Lake trout	0.1834	6.1527	3	570	1,118	983	788	192	13	3,667
Yellow perch	0.1374	4.6091	0	0	0	0	0	2,747	0	2,747
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	2	3	1	2	0	0	8
Angler hours			320	5,449	4,994	4,707	3,452	933	141	19,996
Angler trips			51	783	733	697	559	167	25	3,015
Anglers										
Resident			0	28	8	12	0	15	0	63
Nonresident			51	755	725	685	559	152	25	2,952
Charter excursions			10	148	141	140	116	35	6	596



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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0608	1.9216	77	87	26	3	1	0	2	196
Chinook salmon	0.0217	0.6863	8	48	9	0	1	0	4	70
Rainbow trout	0.0230	0.7255	23	42	7	2	0	0	0	74
Brown trout	0.0053	0.1667	6	10	0	0	0	0	1	17
Lake trout	0.0912	2.8824	0	78	117	37	55	7	0	294
Yellow perch	0.2678	8.4608	0	0	0	166	383	314	0	863
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			276	965	891	332	584	160	15	3,222
Angler trips			44	122	118	54	82	22	3	445
Anglers										
Resident			32	0	22	26	0	0	0	80
Nonresident			12	122	96	28	82	22	3	365
Charter excursions			12	25	24	14	20	6	1	102

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0406	1.3409	835	323	87	87	26	60	2	1,420
Chinook salmon	0.0337	1.1152	225	424	151	91	125	158	7	1,181
Rainbow trout	0.0323	1.0670	133	463	198	227	89	20	0	1,130
Brown trout	0.0087	0.2880	236	42	2	10	5	9	1	305
Lake trout	0.1143	3.7771	90	1,511	840	986	546	27	0	4,000
Yellow perch	0.2203	7.2795	10	35	547	1,934	1,572	2,984	627	7,709
Walleye	0.0000	0.0009	0	0	0	0	1	0	0	1
Other	0.0000	0.0009	1	0	0	0	0	0	0	1
Lamprey on chinook salmon			0	0	1	0	0	0	0	1
Lamprey on lake trout			0	5	5	3	2	0	0	15
Angler hours			3,840	8,506	7,456	7,400	4,908	2,716	175	34,999
Angler trips			565	1,179	1,078	1,061	701	421	31	5,036
Anglers										
Resident			129	393	260	289	181	121	10	1,383
Nonresident			436	786	818	772	520	300	21	3,653
Charter excursions			128	242	210	224	144	100	11	1,059

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, Lake Michigan, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0071	0.2284	10	0	0	0	0	7	20	37
Chinook salmon	0.0069	0.2222	0	0	0	0	0	22	14	36
Rainbow trout	0.0386	1.2346	60	0	0	7	0	13	120	200
Brown trout	0.0380	1.2160	165	0	0	17	0	0	15	197
Lake trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0910	2.9136	0	9	266	140	49	5	3	472
Other	0.0187	0.5988	15	1	27	16	2	17	19	97
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			923	45	981	686	333	890	1,329	5,187
Angler trips			119	5	126	82	39	112	159	642
Anglers										
Resident			57	1	23	20	9	48	51	209
Nonresident			62	4	103	62	30	64	108	433
Charter excursions			30	1	27	24	9	30	41	162

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0029	0.1714	1	33	8	9	13	9	0	73
Chinook salmon	0.0097	0.5728	21	72	34	17	66	34	0	244
Rainbow trout	0.0086	0.5094	1	93	22	38	40	23	0	217
Brown trout	0.0010	0.0587	1	6	1	5	12	0	0	25
Lake trout	0.0354	2.0869	0	157	146	269	303	14	0	889
Yellow perch	1.9398	114.4507	22,732	9,961	1,843	4,813	3,307	5,405	695	48,756
Walleye	0.0055	0.3239	0	0	0	0	138	0	0	138
Other	0.0000	0.0000	0	0	0	0	0	0	0	0
Lamprey on chinook salmon			0	1	0	0	0	0	0	1
Lamprey on lake trout			0	1	3	2	1	0	0	7
Angler hours			3,943	4,561	3,049	5,694	5,378	2,150	360	25,135
Angler trips			793	862	585	1,100	1,029	426	72	4,867
Anglers										
Resident			773	842	528	987	837	408	72	4,447
Nonresident			20	20	57	113	192	18	0	420
Charter excursions			42	73	56	102	120	29	4	426

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0208	0.5973	38	195	46	26	41	55	4	405
Chinook salmon	0.0773	2.2212	70	819	162	125	167	130	33	1,506
Rainbow trout	0.0851	2.4454	13	531	590	125	92	286	21	1,658
Brown trout	0.0154	0.4425	129	110	5	35	14	6	1	300
Lake trout	0.1461	4.1991	0	1,004	507	766	541	27	2	2,847
Yellow perch	0.1453	4.1785	0	297	680	1,364	412	80	0	2,833
Walleye	0.0048	0.1372	0	0	11	0	79	3	0	93
Other	0.0007	0.0192	0	0	9	0	2	2	0	13
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	5	3	0	3	1	0	12
Angler hours			314	5,318	3,919	4,132	4,020	1,630	160	19,493
Angler trips			51	726	558	606	612	254	31	2,838
Anglers										
Resident			42	473	309	307	368	128	21	1,648
Nonresident			9	253	249	299	244	126	10	1,190
Charter excursions			13	170	133	144	144	65	9	678

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0097	0.2691	0	13	11	5	23	22	0	74
Chinook salmon	0.0399	1.1091	0	107	37	34	83	44	0	305
Rainbow trout	0.0340	0.9455	0	75	27	38	38	82	0	260
Brown trout	0.0133	0.3709	0	62	3	18	13	6	0	102
Lake trout	0.1331	3.6982	0	137	149	304	314	113	0	1,017
Yellow perch	0.0660	1.8327	0	0	0	333	30	140	1	504
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	1	0	0	0	0	0	1
Lamprey on lake trout			0	0	0	4	2	2	0	8
Angler hours			0	775	1,348	1,957	2,310	1,235	16	7,641
Angler trips			0	137	210	279	324	181	4	1,135
Anglers										
Resident			0	98	106	158	139	112	4	617
Nonresident			0	39	104	121	185	69	0	518
Charter excursions			0	37	52	64	73	48	1	275

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0153	0.3818	0	33	10	25	143	259	0	470
Chinook salmon	0.0753	1.8733	6	881	455	172	528	254	10	2,306
Rainbow trout	0.0266	0.6621	1	148	90	132	270	164	10	815
Brown trout	0.0046	0.1137	15	37	10	30	27	20	1	140
Lake trout	0.0788	1.9610	0	445	435	817	634	83	0	2,414
Yellow perch	0.0439	1.0918	0	0	1,020	315	1	8	0	1,344
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0017	0.0422	0	3	0	0	0	49	0	52
Lamprey on chinook salmon			0	1	1	2	0	0	0	4
Lamprey on lake trout			0	3	0	3	0	0	0	6
Angler hours			76	4,616	5,537	6,042	9,405	4,793	165	30,633
Angler trips			18	789	958	1,062	1,640	826	37	5,330
Anglers										
Resident			14	626	770	836	1,189	646	33	4,114
Nonresident			4	163	188	226	451	180	4	1,216
Charter excursions			4	186	220	241	373	198	9	1,231

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0116	0.2824	1	3	1	11	36	14	6	72
Chinook salmon	0.0451	1.0941	0	65	39	18	109	41	7	279
Rainbow trout	0.0750	1.8196	0	40	29	59	189	95	52	464
Brown trout	0.0074	0.1804	6	24	0	1	7	8	0	46
Lake trout	0.0359	0.8706	0	49	40	44	80	9	0	222
Yellow perch	0.0002	0.0039	0	0	0	1	0	0	0	1
Walleye	0.0002	0.0039	0	0	0	0	1	0	0	1
Other	0.0003	0.0078	0	0	0	0	0	2	0	2
Lamprey on chinook salmon			0	2	0	0	1	0	0	3
Lamprey on lake trout			0	0	0	1	0	0	0	1
Angler hours			15	789	714	823	2,328	1,314	206	6,187
Angler trips			3	147	120	149	409	232	35	1,095
Anglers										
Resident			3	96	94	110	279	128	29	739
Nonresident			0	51	26	39	130	104	6	356
Charter excursions			1	35	30	37	94	50	8	255



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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0122	0.2920	0	3	3	9	17	1	0	33
Chinook salmon	0.0346	0.8319	0	12	5	36	32	9	0	94
Rainbow trout	0.0612	1.4690	0	4	3	72	80	7	0	166
Brown trout	0.0029	0.0708	1	3	2	0	1	1	0	8
Lake trout	0.0357	0.8584	0	8	3	63	22	1	0	97
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0004	0.0088	0	1	0	0	0	0	0	1
Other	0.0004	0.0088	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			24	250	288	1,200	754	199	0	2,715
Angler trips			4	43	45	167	133	36	0	428
Anglers										
Resident			3	32	31	64	45	13	0	188
Nonresident			1	11	14	103	88	23	0	240
Charter excursions			1	12	12	41	37	10	0	113

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0189	0.5210	1	2	1	15	96	46	0	161
Chinook salmon	0.0513	1.4142	0	14	40	134	210	39	0	437
Rainbow trout	0.0869	2.3948	3	18	36	218	309	156	0	740
Brown trout	0.0081	0.2233	12	16	1	18	17	5	0	69
Lake trout	0.0666	1.8350	1	50	63	284	159	10	0	567
Yellow perch	0.0223	0.6149	0	34	113	39	4	0	0	190
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0008	0.0227	0	0	7	0	0	0	0	7
Lamprey on chinook salmon			0	1	0	0	2	0	0	3
Lamprey on lake trout			0	0	0	0	2	0	0	2
Angler hours			59	528	665	3,020	3,412	832	0	8,516
Angler trips			12	85	104	466	473	142	0	1,282
Anglers										
Resident			12	79	54	329	270	109	0	853
Nonresident			0	6	50	137	203	33	0	429
Charter excursions			4	24	28	110	107	36	0	309

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0270	0.8221	2	2	15	40	586	172	38	855
Chinook salmon	0.0638	1.9433	1	70	69	319	1,171	365	26	2,021
Rainbow trout	0.0990	3.0154	6	17	278	507	1,508	653	167	3,136
Brown trout	0.0159	0.4856	192	103	37	65	82	25	1	505
Lake trout	0.0483	1.4712	0	43	130	711	610	35	1	1,530
Yellow perch	0.0030	0.0904	0	25	27	42	0	0	0	94
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0011	0.0346	0	1	0	3	15	17	0	36
Lamprey on chinook salmon			0	0	0	1	5	0	0	6
Lamprey on lake trout			0	0	0	1	2	0	0	3
Angler hours			495	1,134	2,244	8,306	14,106	4,839	561	31,684
Angler trips			75	170	305	1,130	1,971	677	85	4,413
Anglers										
Resident			74	131	259	939	1,442	554	71	3,470
Nonresident			1	39	46	191	529	123	14	943
Charter excursions			17	40	72	260	463	166	22	1,040

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0116	0.3286	2	0	11	23	154	42	0	232
Chinook salmon	0.0419	1.1912	3	6	158	160	447	66	1	841
Rainbow trout	0.0693	1.9674	6	6	646	468	188	28	47	1,389
Brown trout	0.0295	0.8371	367	60	65	36	58	4	1	591
Lake trout	0.0527	1.4958	0	2	312	534	204	4	0	1,056
Yellow perch	0.0000	0.0000	0	0	0	0	0	0	0	0
Walleye	0.0000	0.0014	1	0	0	0	0	0	0	1
Other	0.0002	0.0057	2	0	0	0	2	0	0	4
Lamprey on chinook salmon			0	0	2	1	2	0	0	5
Lamprey on lake trout			0	0	7	7	4	0	0	18
Angler hours			999	360	5,490	5,655	5,850	1,340	359	20,052
Angler trips			163	59	717	776	835	198	48	2,796
Anglers										
Resident			156	54	641	685	652	153	35	2,376
Nonresident			7	5	76	91	183	45	13	420
Charter excursions			40	15	176	189	216	55	15	706

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0133	0.4213	0	0	2	7	49	25	0	83
Chinook salmon	0.0534	1.6853	0	0	53	102	151	26	0	332
Rainbow trout	0.0890	2.8122	0	1	258	196	75	24	0	554
Brown trout	0.0125	0.3959	0	18	6	26	19	9	0	78
Lake trout	0.0778	2.4569	0	17	140	261	65	1	0	484
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	0.0254	0	0	1	0	0	4	0	5
Lamprey on chinook salmon			0	0	1	1	0	0	0	2
Lamprey on lake trout			0	0	4	1	0	0	0	5
Angler hours			0	180	1,789	2,381	1,486	387	0	6,223
Angler trips			0	20	206	302	230	67	0	825
Anglers										
Resident			0	12	162	245	183	42	0	644
Nonresident			0	8	44	57	47	25	0	181
Charter excursions			0	6	45	70	59	17	0	197

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0514	1.3177	0	0	3	7	313	968	3	1,294
Chinook salmon	0.0211	0.5418	0	0	14	127	320	62	9	532
Rainbow trout	0.0402	1.0305	17	9	235	378	274	77	22	1,012
Brown trout	0.0083	0.2138	14	35	20	43	79	17	2	210
Lake trout	0.1202	3.0815	0	199	546	1,514	687	80	0	3,026
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	0	1	16	2	0	1	20
Lamprey on chinook salmon			0	0	0	0	1	0	0	1
Lamprey on lake trout			0	5	13	10	3	0	0	31
Angler hours			110	958	3,468	6,849	8,869	4,767	155	25,176
Angler trips			20	158	530	1,086	1,405	744	30	3,973
Anglers										
Resident			20	145	455	800	1,108	628	19	3,175
Nonresident			0	13	75	286	297	116	11	798
Charter excursions			6	38	126	268	346	187	11	982

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0008	0.0194	0	0	1	9	0	3	0	13
Chinook salmon	0.0259	0.6039	0	1	14	203	133	41	12	404
Rainbow trout	0.0659	1.5366	0	0	196	753	68	11	0	1,028
Brown trout	0.0154	0.3587	9	98	84	17	19	11	2	240
Lake trout	0.2803	6.5411	0	189	818	1,464	1,799	106	0	4,376
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	0.0011	0.0254	0	0	1	9	5	1	1	17
Lamprey on chinook salmon			0	0	0	0	5	0	0	5
Lamprey on lake trout			0	0	3	3	11	0	0	17
Angler hours			15	592	2,414	6,634	5,366	570	20	15,611
Angler trips			3	130	469	1,139	1,052	115	4	2,912
Anglers										
Resident			3	102	343	706	708	77	4	1,943
Nonresident			0	28	126	433	344	38	0	969
Charter excursions			1	32	108	264	235	28	1	669

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 715-915), Lake Michigan, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0062	0.0996	0	1	0	0	0	26	0	27
Chinook salmon	0.0214	0.3432	0	1	3	4	16	64	5	93
Rainbow trout	0.0018	0.0295	0	0	0	4	4	0	0	8
Brown trout	0.0051	0.0812	0	3	11	2	6	0	0	22
Lake trout	0.1793	2.8782	0	86	309	207	170	8	0	780
Yellow perch	0.0028	0.0443	0	0	0	0	0	12	0	12
Walleye	0.0000	0.0000	0	0	0	0	0	0	0	0
Other	0.0080	0.1292	0	3	2	3	3	24	0	35
Lamprey on chinook salmon			0	0	0	0	0	0	0	0
Lamprey on lake trout			0	1	11	5	1	0	0	18
Angler hours			0	301	1,186	943	1,134	743	43	4,350
Angler trips			0	63	284	205	258	172	15	997
Anglers										
Resident			0	56	203	107	172	111	12	661
Nonresident			0	7	81	98	86	61	3	336
Charter excursions			0	17	67	56	77	49	5	271



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 716-916), Lake Michigan, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0023	0.0362	0	0	0	0	0	10	0	10
Chinook salmon	0.0149	0.2391	0	0	2	5	9	50	0	66
Rainbow trout	0.0025	0.0399	0	1	4	2	3	1	0	11
Brown trout	0.0491	0.7862	1	13	35	120	38	10	0	217
Lake trout	0.0757	1.2138	0	66	46	126	93	4	0	335
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	0.0020	0.0326	0	1	1	4	2	1	0	9
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			31	456	541	1,225	1,501	669	0	4,423
Angler trips			9	123	140	326	397	169	0	1,164
Anglers										
Resident			9	73	80	219	271	109	0	761
Nonresident			0	50	60	107	126	60	0	403
Charter excursions			2	25	33	81	98	37	0	276

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0026	0.0500	0	0	0	5	8	0	0	13
Chinook salmon	0.0074	0.1423	0	0	0	9	7	21	0	37
Rainbow trout	0.0002	0.0038	0	1	0	0	0	0	0	1
Brown trout	0.0038	0.0731	0	14	0	2	3	0	0	19
Lake trout	0.2704	5.1846	0	8	164	513	617	46	0	1,348
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	4	2	0	0	6
Angler hours			0	96	524	1,462	2,044	861	0	4,986
Angler trips			0	15	118	332	491	175	0	1,131
Anglers										
Resident			0	0	71	155	293	105	0	624
Nonresident			0	15	47	177	198	70	0	507
Charter excursions			0	3	29	82	112	34	0	260

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, 1994.

Species	Total catch per hour	Total catch per excursion	Month							Season total
			Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.0000	0.0000	0	0	0	0	0	0	0	0
Chinook salmon	0.0130	0.2051	0	0	1	2	4	1	0	8
Rainbow trout	0.0000	0.0000	0	0	0	0	0	0	0	0
Brown trout	0.0016	0.0256	0	0	0	0	1	0	0	1
Lake trout	0.4058	6.4103	0	0	41	109	72	28	0	250
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	1	1	3	2	0	7
Angler hours			0	0	92	244	192	88	0	616
Angler trips			0	0	23	62	48	22	0	155
Anglers										
Resident			0	0	9	25	21	11	0	66
Nonresident			0	0	14	37	27	11	0	89
Charter excursions			0	0	7	13	13	6	0	39