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Michigan Waters of the Great Lakes, 2000**

**Gerald P. Rakoczy
and
Donna L. Wesander**



MICHIGAN DEPARTMENT OF NATURAL RESOURCES FISHERIES DIVISION

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Charter Boat Catch and Effort from the Michigan Waters of the Great Lakes, 2000

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Abstract.—Public Act 451 (Part 445) of 1994 requires all charter boat operators fishing state of Michigan waters 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 approximately 500 charter fishing operators complied with the law by returning their completed catch reporting forms in 2000. An independent observation program conducted at eight Lake Michigan ports found good agreement (76%) between reported and observed charter excursions. Charter fishing operators reported making 17,140 charter fishing excursions during April through October. The total number of charter excursions decreased slightly (-4%) in 2000 compared to 1999. Approximately 472,000 angler hours were spent fishing by some 78,987 charter clients. The distribution of charter fishing excursions was: 68% Lake Michigan, 16% Lake Huron, 11% Lake Erie, 3% Lake Superior, and 2% Lake St. Clair. Over 228,000 fish were reported harvested. The harvest was composed of about 58,700 yellow perch, 48,800 Chinook salmon, 47,000 walleye, 32,500 lake trout, 19,300 coho salmon, 10,800 rainbow trout, and 4,300 brown trout. Harvest rates of most salmonine species from lakes Michigan and Huron correlated significantly ($P < 0.05$) with harvest rates estimated independently from Michigan's Great Lakes creel survey during 1990–2000.

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 approximately 500. 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).

Reporting of sportfishing catch and effort by the Michigan charter fishing industry is required under Public Act 451 (Part 445) of 1994. The legislation was supported by the Michigan Charter Boat Association (MCBA), an industry representative, and the Michigan Department of Natural Resources (MDNR). Among other provisions, the law includes 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 have assisted MDNR's Great Lakes fishery management efforts by providing valuable trend information about charter harvest and harvest rates, which reflect the status of fish stocks important to the industry. The data also allows MCBA to monitor the health and welfare of its industry.

Methods

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

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

Completed data forms returned to Charlevoix Fisheries Research Station were logged, coded by port fished, and entered on computer. Incomplete forms were logged and returned to the charter operator with a letter explaining 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 2000, 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 could be submitted to MDNR's Law Enforcement Division recommending non-issuance of an inspection certificate for the 2001 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 six hours, total fishing effort would be 24 angler hours, four angler trips, and one 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 the request of the U.S. Fish and Wildlife Service's (USFWS) Sea Lamprey Control Station at Marquette, Michigan. These data are used by USFWS as an index of sea lamprey abundance.

Results

Compliance

During the 2000 fishing season, an average of 62% of all charter boat operators complied with the law by submitting their catch reports on time, while 79% submitted reports within 30 days of the due

date. Monthly rate of compliance in 2000 was slightly less than in 1999. By the end of 2000, 97% of all charter operators had complied with the law; this compliance rate is the same as that observed in 1999 (Rakoczy and Wesander-Russell 2003).

During June through September 2000, the project biologist used MDNR personnel from the Great Lakes Creel Survey Program to observe charter boat activity at eight ports (Leland, Glen Arbor, Frankfort, Onekama, Manistee, Ludington, Pentwater, and Whitehall) on Lake Michigan (Figure 2). These ports accounted for 44% of the charter excursions that occurred on Lake Michigan during that time period. The objective of the observation program was to determine how well fishing effort (charter excursions) was being reported by charter operators. MDNR creel personnel were asked to record data on a form (Charter Boat Observation Form) that included fields for: date, time, port, captain's name, business name, and boat name (Figure 3). Space was also provided on the form for comments. The observations on charter boat activity were then cross-checked against the data in the charter boat harvest and effort database to determine whether observed excursions were reported by the captains.

A total of 506 observations were made at all ports combined during June–September 2000 (Table 1). Seventy-six percent of those trips were contained in the charter boat database. The percentage agreement between ports was very similar, with the greatest agreement occurring at Whitehall/Pentwater followed by Frankfort/Onekama. However, the number of observations made at Whitehall/Pentwater (15) was not comparable to the other locations.

The combined port agreement rate of 76% is considered quite good, considering that charter captains are not required to report trips for which money does not change hands. Many charter operators use their boats for personal use as well as business use. It is quite probable that many of the trips that were not found in the database were "fun trips" with family or friends. In addition, a number of captains are in the charter fishing business to help "write off" the expenses of a large boat, which they might not be able to afford if they used it strictly for their own pleasure trips. These captains run relatively few "paying trips" each year. Also, when an observation was not found in the database, it was not uncommon to find a reported charter fishing trip in the database for the following day. On these occasions, charter captains could have been simply trying to find productive fishing depths or lures for the "paying trip" which was to occur the next day.

In reviewing these observations we found most charter operators had very good agreement between observed and reported trips; a minority of others did not. These observations can be used by MDNR's Law Enforcement Division to target their efforts toward specific operators or toward operators who may be running illegal, non-inspected charter boats.

Charter Effort

Charter operators submitted reports on 18,077 charter excursions during 2000. The majority of charter excursions (17,140) took place on the Great Lakes and its tributaries during April through October (Tables 2 through 6). The total number of charter excursions during this time period decreased by 4% compared to 1999 (Table 7). Lake Michigan was the only lake that had an increase (+3%) in charter excursions; decreases occurred on lakes Erie (-23%), Superior (-21%), Huron (-12%), and St. Clair (-11%). The distribution of charter fishing excursions by lake was: 68% Lake Michigan, 16% Lake Huron, 11% Lake Erie, 3% Lake Superior, and 2% Lake St. Clair. This distribution was very similar to previous years.

Since 1990, the total number of charter excursions on the Great Lakes has declined from about 20,000 in 1990–91 to a low of approximately 15,000 in 1994 (Table 7). Since 1994, the number of excursions has increased to around 17,000–18,000 the past three seasons (1998–2000). Lake Erie is the only location where the numbers of charter excursions have not decreased in recent years compared to the 1990–91 period.

A total of 472,488 hours were spent fishing by 78,987 charter anglers in Michigan's waters and tributaries of the Great Lakes (Tables 2–6). The total number of charter anglers in 2000 decreased by 4% compared to 1999. Thirty-three percent of all charter clients were not residents of Michigan. Lake Superior charter operators had the greatest percentage of nonresident clients (51%, Table 5), while Lake St. Clair charter captains had the lowest percentage (5%, Table 6). The reason Lake Superior has always had a large percentage of non-resident charter anglers is likely the active charter fishery in the vicinity of Isle Royale National Park. The majority of those charter trips originate in Minnesota.

Catch and Harvest

A total of 228,623 fish were reported harvested in all lakes (Tables 2–6). Lake Michigan accounted for 53% of all fish harvested, while lakes Erie and Huron accounted for 31% and 10%, respectively. The most numerous species in the harvest was yellow perch (58,673), which accounted for 26% of the total harvest. Numbers of other species harvested were: 48,801 Chinook salmon (21%), 47,173 walleye (21%), 32,559 lake trout (14%), 19,336 coho salmon (8%), 10,800 rainbow trout (5%), and 4,285 brown trout (2%). The "other" species category accounted for the remainder of the catch. Since other species are not identified on the catch reporting form, the actual composition of this category is unknown.

The overall numbers of salmonines harvested from Michigan's Great Lakes waters increased by over 16,000 fish (+16%) in 2000 compared to 1999. The harvest of coho salmon (+60%), Chinook salmon (+24%) and brown trout (+69%) increased as compared to the previous year. The number of rainbow trout (-9%) and lake trout (-3%) harvested decreased in 2000 compared to 1999. The majority (96%) of salmonines harvested in Michigan's Great Lakes waters come from lakes Michigan and Huron.

In Lake Michigan, increases occurred in the harvest of coho salmon (7,894 fish or +72%), Chinook salmon (12,368 or +43%), and brown trout (1,757 or +73%) during 2000 as compared to 1999. The harvest of rainbow trout (-1,087 or -10%) and lake trout (-530 or -3%) decreased slightly compared to the previous year.

In Lake Huron, the harvest of coho salmon (-232 fish or -37%) and Chinook salmon (-2,860 or -27%) decreased, while the harvest of rainbow trout, brown trout and lake trout were virtually unchanged compared to 1999.

The numbers of walleye and yellow perch harvested in 2000 decreased compared to 1999. Walleye decreased by 17,888 fish (-27%) while the yellow perch harvest decreased by 43,173 fish (-42%). The majority (89%) of walleye harvested by charter anglers in the Michigan waters of the Great Lakes came from Lake Erie. The Lake Erie walleye harvest declined by 29% in 2000 compared to 1999. Forty-six percent of the total yellow perch harvest during 2000 came from Lake Erie, while 42% came from Lake Michigan. The harvest of yellow perch decreased 45% in Lake Erie and 42% in Lake Michigan during 2000 as compared to the previous year.

Catch rates (fish per 100 angler hours) by Lake Michigan charter anglers increased in 2000 as compared to 1999 for coho salmon (+68%), Chinook salmon (+39%) and brown trout (+86%), while rates for rainbow trout (-12%) and lake trout (-3%) declined (Table 8). Chinook salmon catch rates have been trending upward since 1995 on Lake Michigan.

On Lake Huron, catch rates for coho and Chinook salmon declined by -33% and -23%, respectively, as compared to 1999. Catch rates for rainbow trout and brown trout remained unchanged, while lake trout catch rates increased (+9%) slightly compared to 1999. The catch rates noted for lake trout during 2000 on Lake Huron were the best since the inception of the charter catch reporting program in 1990.

Lake trout are the most important salmonine in the charter catch from Lake Superior and catch rates for lake trout have been virtually unchanged since 1990.

Walleye play an important role in charter fisheries on lakes Erie, Huron, and St. Clair. Catch rates for walleye by charter anglers on lakes Erie (+4%) and Huron (+24%) increased during 2000 compared to 1999 (Table 9). The walleye fishery on the St. Clair system during 2000 was the poorest since 1990 and declined by 56% as compared to 1999.

Most charter excursions that took place on Michigan's Great Lakes waters during 2000 targeted various species of salmonines. The total catch per charter excursion for all five species of salmonines combined indicates that fishing was above average during 2000 at most Great Lakes ports (Table 10). On Lake Michigan, the "mixed bag" catch per excursion for salmonines was greater than the previous 10-year average (1990–99) at five of the six ports with the greatest fishing effort. Only the port of Leland showed a decline in 2000 compared to the average. This was due to the fact that catch rates for lake trout at Leland declined by 67% in 2000 compared to 1999. Leland charter captains have frequently used the comment section of the daily catch report (Figure 1) to complain about the decline in their lake trout fishery. While catch rates for lake trout have declined by 85% since their peak in 1995, the rates reported for 2000 are similar to rates recorded during the early 1990's (Figure 4).

Catch per excursion for salmonines also increased during 2000, compared to the average, at four of five Lake Huron ports with the greatest fishing effort (Table 10). On Lake Superior, salmonine rates were virtually unchanged at Black River Harbor, but were above the 10-year average at Marquette and Ontonagon.

Charter operators have reported the numbers of sea lamprey observed attached to Chinook salmon and lake trout since the inception of the charter catch reporting program. Historically, incidence rates (number of sea lamprey per 100 fish) of attached sea lamprey have been much higher on Lake Huron than the other Great Lakes (Table 11). No trends are evident in attachment rates for Chinook salmon or lake trout on lakes Michigan and Superior. In general, rates of sea lamprey attachments have declined since 1990 for Chinook salmon on Lake Huron.

Multi-year Catch Rate Analysis

One way to test the accuracy of the charter reporting program is to compare it to an independent data set, such as the Great Lakes creel survey, that has been collected during the same time period. The objective of MDNR's Great Lakes Creel Survey program is to make catch and effort estimates at various ports on Michigan's Great Lakes waters (Rakoczy and Svoboda 1997). Catch rates for major species on the Great Lakes should show the same annual trends in both data sets. Correlation analysis of mean annual catch rates (April through October) from the creel survey and from the charter reporting program indicate that catch rates were positively correlated ($P < 0.05$) for Chinook salmon, rainbow trout and lake trout on both lakes Michigan and Huron (Table 12). Catch rates for coho salmon correlated significantly on Lake Michigan, but not on Lake Huron. The reason for this could be that coho salmon are not a significant part of the Lake Huron sport fishery. Fewer than 500 coho salmon were harvested by Lake Huron charters during 2000 (Table 3), while over 18,000 were harvested by the Lake Michigan charter fishery (Table 2). Walleye catch rates for charter and sport anglers on Lake Erie (May through July) were not correlated. This fishery is quite different than the salmonine fisheries on the other Great Lakes. For example, many Lake Erie fishing trips (charter and non-charter) originate at a Michigan port, but the actual fishing occurs outside the state's waters in the State of Ohio or Province of Ontario waters. Charter captains do not report these trips since the harvest does not come from Michigan waters.

Acknowledgments

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES - FISHERIES DIVISION

DNR MICHIGAN CHARTER BOAT DAILY CATCH REPORT

Submittal of this information is required by authority of Section 44508 of Part 445 of Act 451, P. A. of 1994, as amended. Failure to comply with the provisions of this Act will prohibit issuance of an Inspection Certificate for the following season.

IDENTIFICATION NUMBER	
LAKE	
MONTH	YEAR

Please reference instructions on reverse side.

Date	Port Fished	Grid Fished	Hours Fished (Dock to Dock)	No. of Anglers		Daily Catch											No. of Lamprey Seen On		
				Res.	Non-Res.	COS	CHS	RBT	BNT	LAT	YEP	WAE	SMB	MUS	OTH	CHS	LAT		
1																			
2																			
3																			
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31																			
Comments: _____ _____ _____						Signature: _____ Date: _____													

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Figure 1.-Michigan charter boat daily catch report form.

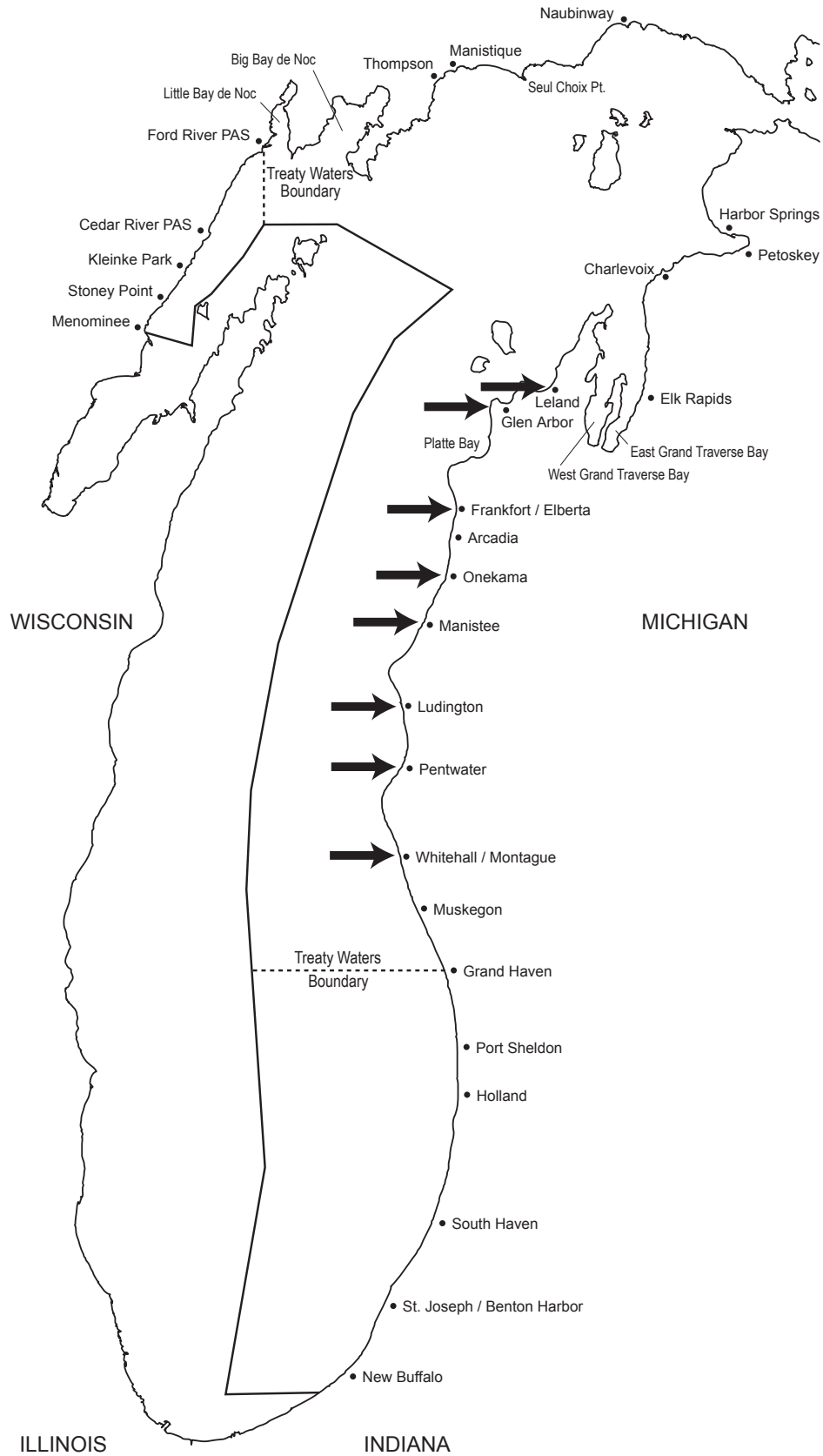


Figure 2.—Port locations (arrows) at which independent verification of charter boat trips occurred.

Charter Boat Observation Form

Date	Time	Port	Captain's Name	Business Name	Boat Name	Comments

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Figure 3.-Form used by MDNR for recording independent observations of charter boat trip activity.

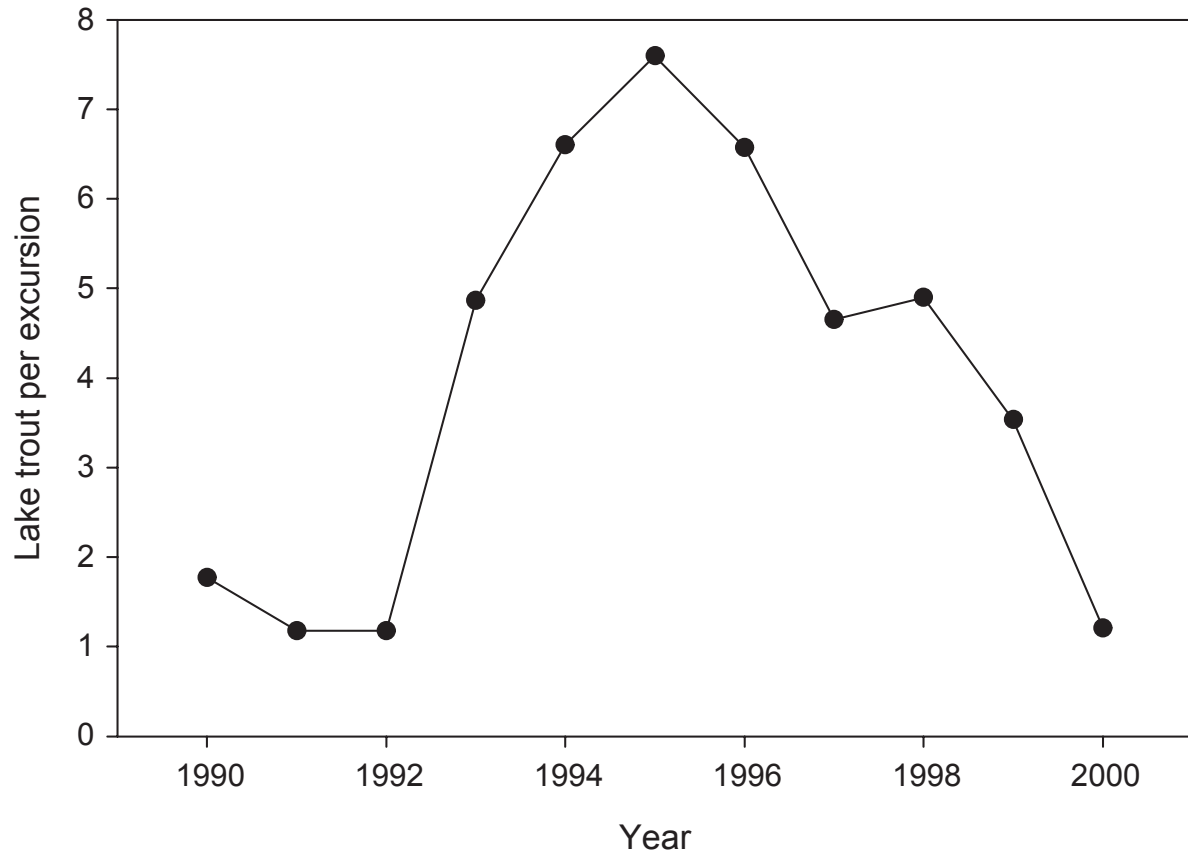


Figure 4.—Catch per charter excursion of lake trout at Leland, Lake Michigan, 1990-2000.

Table 1.—Number of charter trips observed by MDNR personnel at select Lake Michigan ports and the number and percentage of those trips reported by charter operators, June through September 2000.

Area	Total number of trips observed	Number of trips on catch reports	Percentage agreement (%)
Leland/Glen Arbor	146	110	75
Frankfort/Onkama	134	104	78
Manistee/Ludington	211	157	74
Pentwater/Whitehall	15	12	80
Total	506	383	76

Table 2.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Lake Michigan, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.057	1.604	1,567	3,280	3,055	2,699	5,444	2,692	48	18,785
Chinook salmon	0.124	3.505	459	4,685	4,542	11,495	15,956	3,844	76	41,057
Rainbow trout	0.030	0.848	574	771	1,491	3,019	2,809	721	553	9,938
Brown trout	0.013	0.355	1,053	607	554	1,028	790	117	11	4,160
Lake trout	0.060	1.684	23	2,601	3,346	6,425	6,793	537	0	19,725
Yellow perch	0.073	2.079	5,642	764	2,650	4,619	9,186	1,492	2	24,355
Walleye	0.005	0.138	2	163	390	273	296	144	346	1,614
Other	0.002	0.052	13	31	342	130	42	35	13	606
Lamprey on:										
Chinook salmon			4	10	14	80	63	8	0	179
Lake trout			2	28	42	98	86	9	0	265
Angler hours			15,204	35,564	45,966	84,903	111,003	32,238	6,534	331,411
Angler trips			2,718	5,888	7,539	14,236	18,270	5,581	918	55,150
Anglers										
Resident			2,099	3,796	5,198	10,106	13,549	4,018	356	39,122
Nonresident			624	2,092	2,341	4,130	4,728	1,563	562	16,040
Charter excursions			375	1,139	1,577	2,983	4,065	1,312	263	11,714

Table 3.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Lake Huron, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.006	0.146	4	195	84	63	53	4	0	403
Chinook salmon	0.121	2.774	18	572	1,005	2,395	3,117	543	5	7,655
Rainbow trout	0.013	0.302	38	120	96	242	301	37	0	834
Brown trout	0.002	0.044	3	6	18	36	41	17	0	121
Lake trout	0.128	2.929	3	1,302	1,832	2,246	2,539	161	0	8,083
Yellow perch	0.039	0.899	0	0	164	723	1,062	531	0	2,480
Walleye	0.042	0.962	0	29	98	1,742	766	19	0	2,654
Other	0.008	0.186	0	17	68	215	188	25	0	513
Lamprey on:										
Chinook salmon			1	29	75	208	237	12	0	562
Lake trout			0	33	27	59	57	3	0	179
Angler hours			659	6,251	9,611	20,466	21,651	4,462	40	63,140
Angler trips			113	1,093	1,658	3,553	3,790	819	5	11,031
Anglers										
Resident			92	1,053	1,403	3,097	3,227	753	5	9,630
Nonresident			21	40	255	456	563	66	0	1,401
Charter excursions			36	268	406	895	954	198	3	2,760

Table 4.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Lake Erie, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.000	0.000	0	0	0	0	0	0	0	0
Chinook salmon	0.000	0.000	0	0	0	0	0	0	0	0
Rainbow trout	0.000	0.004	0	0	4	3	0	0	0	7
Brown trout	0.000	0.000	0	0	0	0	0	0	0	0
Lake trout	0.000	0.001	0	0	0	1	0	0	0	1
Yellow perch	0.535	14.830	0	287	729	259	9,703	11,872	4,378	27,228
Walleye	0.829	22.994	249	3,081	17,754	16,983	3,533	617	0	42,217
Other	0.033	0.915	82	379	787	333	68	31	0	1,680
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	0	0	0	0	0	0
Angler hours			522	5,286	22,475	14,212	4,859	2,659	924	50,936
Angler trips			53	904	3,913	2,510	918	497	187	8,982
Anglers										
Resident			35	744	3,431	2,187	845	471	173	7,886
Nonresident			18	160	482	323	73	26	14	1,096
Charter excursions			18	195	787	515	188	94	39	1,836

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 Superior, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.008	0.307	0	5	81	35	11	16	0	148
Chinook salmon	0.005	0.183	0	2	4	6	5	71	0	88
Rainbow trout	0.001	0.044	0	1	11	2	2	5	0	21
Brown trout	0.000	0.008	0	0	1	2	1	0	0	4
Lake trout	0.272	9.855	0	129	1,057	1,795	1,425	334	10	4,750
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.017	0	0	0	0	0	8	0	8
Lamprey on:										
Chinook salmon			0	0	0	0	0	1	0	1
Lake trout			0	0	4	10	4	0	0	18
Angler hours			0	405	3,937	6,720	4,915	1,453	36	17,464
Angler trips			0	53	479	883	637	233	6	2,291
Anglers										
Resident			0	39	269	420	255	120	6	1,109
Nonresident			0	14	210	463	382	113	0	1,182
Charter excursions			0	12	90	180	138	61	1	482

Table 6.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on St. Clair system (Lake St. Clair, St. Clair River, and Detroit River), 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.000	0.000	0	0	0	0	0	0	0	0
Chinook salmon	0.000	0.003	0	0	0	0	0	1	0	1
Rainbow trout	0.000	0.000	0	0	0	0	0	0	0	0
Brown trout	0.000	0.000	0	0	0	0	0	0	0	0
Lake trout	0.000	0.000	0	0	0	0	0	0	0	0
Yellow perch	0.483	13.247	0	138	1,362	684	790	735	901	4,610
Walleye	0.072	1.977	0	60	134	306	154	34	0	688
Other	0.439	12.037	0	167	789	1,338	1,166	634	95	4,189
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	0	1	0	0	0	1
Angler hours			0	449	1,909	2,713	2,328	1,464	675	9,537
Angler trips			0	107	320	437	354	220	95	1,533
Anglers										
Resident			0	107	312	400	335	217	88	1,459
Nonresident			0	0	8	37	19	6	7	77
Charter excursions			0	20	76	99	82	50	21	348

Table 7.—Number of charter excursions on the Michigan waters of the Great Lakes, 1990-2000.

Lake	Year										
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Michigan	13,467	13,604	10,995	10,298	10,116	9,996	10,344	10,627	12,333	11,382	11,714
Huron	4,010	3,442	2,521	2,307	2,182	2,599	2,592	2,684	3,210	3,123	2,760
Erie	1,684	1,445	1,679	1,881	1,661	1,781	1,775	1,727	1,679	2,380	1,836
Superior	755	791	743	618	455	515	524	497	517	607	482
St. Clair	779	643	509	414	299	336	407	394	432	389	348
Total	20,695	19,925	16,447	15,518	14,713	15,227	15,642	15,929	18,171	17,881	17,140

Table 8.–Catch rates (fish per 100 angler hours) by charter anglers for salmonines on lakes Michigan, Huron, and Superior during 1990–2000.

Species	Year										
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<u>Michigan</u>											
Coho salmon	3.9	2.8	3.4	4.5	2.6	2.2	2.9	3.8	4.8	3.4	5.7
Chinook salmon	7.4	7.0	4.9	4.0	4.0	5.0	9.0	9.6	8.1	8.9	12.4
Rainbow trout	4.0	7.2	6.5	5.0	5.2	3.0	6.3	4.8	4.0	3.4	3.0
Brown trout	0.6	0.8	0.4	0.7	1.1	0.7	1.1	1.5	0.6	0.7	1.3
Lake trout	8.4	8.7	7.6	9.7	10.4	10.2	7.5	7.2	9.4	6.2	6.0
<u>Huron</u>											
Coho salmon	0.2	0.2	0.2	0.3	0.3	0.1	0.4	0.2	0.4	0.9	0.6
Chinook salmon	6.0	6.4	6.4	7.2	8.3	11.7	11.8	18.5	16.1	15.7	12.1
Rainbow trout	0.3	0.6	0.7	1.4	1.3	2.6	2.6	2.0	1.3	1.3	1.3
Brown trout	0.1	0.2	0.7	1.7	2.1	1.9	0.8	0.4	0.6	0.2	0.2
Lake trout	9.8	7.9	6.6	4.3	6.3	6.6	9.4	9.8	12.6	11.7	12.8
<u>Superior</u>											
Coho salmon	1.2	3.2	1.3	1.0	1.6	1.7	1.9	1.1	0.7	2.3	0.8
Chinook salmon	0.3	0.4	0.3	0.3	0.1	0.2	0.3	0.1	0.7	0.6	0.5
Rainbow trout	0.3	0.3	0.1	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.1
Brown trout	0.1	0.2	0.1	0.0	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Lake trout	28.5	27.9	25.5	28.2	25.3	26.2	28.5	26.9	25.2	26.3	27.2

Table 9.—Catch rates (fish per 100 angler hours) by charter anglers for yellow perch and walleye on lakes Huron, St. Clair, and Erie during 1990–2000.

Species	Year											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
<u>Huron</u>												
Yellow perch	9.2	7.4	6.3	4.0	4.9	3.7	2.8	1.6	2.5	8.4	3.9	
Walleye	5.1	7.1	6.7	7.4	6.7	3.5	3.4	3.0	3.7	3.4	4.2	
<u>St. Clair</u>												
Yellow perch	13.8	16.8	15.1	40.4	85.5	66.9	100.3	103.3	42.9	41.3	48.3	
Walleye	32.4	20.4	12.5	18.4	12.3	15.5	12.3	13.1	16.1	16.3	7.2	
<u>Erie</u>												
Yellow perch	29.4	34.1	43.3	43.9	28.7	51.7	78.4	74.6	70.4	67.2	53.5	
Walleye	74.5	62.8	78.5	81.4	69.6	82.4	82.2	83.9	106.7	80.0	82.9	

Table 10.—Total and mean (1990–99) catch per excursion (number of fish) for all salmonines combined by charter anglers at various ports on lakes Michigan, Huron, and Superior, 1990–2000.

Port	Year										Mean	2000
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999		
<u>Lake Michigan</u>												
St. Joseph/Benton Harbor	7.3	8.7	7.3	8.1	7.7	7.7	10.0	9.8	9.3	7.0	8.3	10.3
Grand Haven	5.0	5.5	4.7	5.3	5.0	5.2	6.1	6.7	6.7	5.3	5.6	7.8
Ludington	9.3	11.1	8.4	8.8	7.4	7.2	10.8	8.4	8.1	8.8	8.8	9.1
Manistee	6.2	8.0	5.7	6.2	5.8	6.9	10.3	8.8	8.2	7.5	7.4	9.6
Frankfort/Elberta	7.1	7.5	5.8	6.6	6.2	6.7	8.8	7.6	8.2	8.1	7.3	7.6
Leland	7.2	9.5	9.0	6.9	9.1	8.6	9.4	9.1	8.1	7.1	8.4	6.9
<u>Lake Huron</u>												
Rogers City	3.2	3.3	2.5	3.9	5.2	6.6	5.9	8.2	5.4	6.3	5.1	4.1
Alpena	3.4	3.5	4.7	4.9	4.7	5.1	5.2	6.4	6.6	7.2	5.2	6.8
Oscoda	4.0	4.0	3.6	3.0	3.2	5.2	6.2	7.1	7.1	7.0	5.0	5.8
Grindstone City	5.6	6.1	5.9	4.7	5.5	7.0	8.0	9.3	10.7	10.1	7.3	10.6
Harbor Beach	3.6	2.9	3.2	2.8	3.5	4.9	6.6	6.5	6.7	7.1	4.8	5.9
<u>Lake Superior</u>												
Marquette	10.9	10.9	11.4	10.9	8.3	11.2	13.0	11.9	7.0	10.4	10.6	11.5
Ontonagon	12.5	11.5	14.1	14.0	10.1	11.1	15.9	11.9	13.7	14.8	13.0	13.2
Black River Harbor	12.0	12.9	10.6	13.5	14.1	12.6	14.0	13.1	10.7	13.6	12.7	12.3

Table 11.—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, 1990–2000.

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

Table 12.—Pearson correlation coefficients (r) and statistical probabilities (* = P<0.05) between charter and creel survey catch rates for various species on lakes Michigan, Huron and Erie, 1990–2000.

Species	Lake		
	Michigan ¹	Huron ²	Erie ³
<u>Chinook salmon</u>			
r	0.983 *	0.943 *	
Probability	0.000	0.000	
<u>Coho salmon</u>			
r	0.855 *	0.522	
Probability	0.001	0.122	
<u>Rainbow trout</u>			
r	0.813 *	0.949 *	
Probability	0.002	0.000	
<u>Lake trout</u>			
r	0.807 *	0.757 *	
Probability	0.003	0.011	
<u>Walleye</u>			
r			-0.301
Probability			0.368

¹ Analysis included the Lake Michigan ports of St. Joseph/Benton Harbor, Grand Haven, Muskegon, Ludington, Manistee, and Frankfort/Elberta during April through October, 1990–2000.

² Analysis included the Lake Huron ports of Rogers City, Rockport, Alpena, Harrisville, Oscoda, and the area from Eagle Bay to Harbor Beach during April through October, 1991–2000. Creel sampling did not cover all of the included ports during 1990.

³ Analysis used May through July data.

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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 (harvest in Michigan waters only), Lake Michigan, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.235	8.573	872	1,406	1,109	696	191	11	10	4,295
Chinook salmon	0.049	1.794	24	197	159	265	192	54	8	899
Rainbow trout	0.067	2.463	367	305	153	364	34	11	0	1,234
Brown trout	0.009	0.335	8	23	27	34	52	20	4	168
Lake trout	0.032	1.176	6	190	110	116	159	8	0	589
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	2	1	0	0	0	3
Lake trout			2	1	0	0	0	0	0	3
Angler hours			2,545	4,747	3,767	3,656	2,696	752	144	18,306
Angler trips			330	645	516	513	402	111	16	2,533
Anglers										
Resident			86	54	2	0	0	1	0	143
Nonresident			244	591	514	513	402	110	16	2,390
Charter excursions			62	127	101	102	85	21	3	501

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.220	7.212	0	97	91	37	13	0	0	238
Chinook salmon	0.054	1.758	0	10	21	10	17	0	0	58
Rainbow trout	0.039	1.273	0	8	5	26	3	0	0	42
Brown trout	0.008	0.273	0	1	1	3	4	0	0	9
Lake trout	0.038	1.242	0	10	10	10	11	0	0	41
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	0	0	0	0	0	0
Angler hours			0	330	332	278	140	0	0	1,080
Angler trips			0	44	44	41	24	0	0	153
Anglers										
Resident			0	1	2	0	0	0	0	3
Nonresident			0	43	42	41	24	0	0	150
Charter excursions			0	8	10	9	6	0	0	33

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.101	3.378	97	1,175	1,220	499	354	112	2	3,459
Chinook salmon	0.112	3.764	91	1,422	659	622	754	306	0	3,854
Rainbow trout	0.040	1.334	4	152	271	531	324	7	77	1,366
Brown trout	0.005	0.161	13	62	25	19	39	7	0	165
Lake trout	0.048	1.618	2	645	254	388	368	0	0	1,657
Yellow perch	0.029	0.961	0	0	32	75	762	115	0	984
Walleye	0.000	0.004	0	0	0	0	0	0	4	4
Other	0.000	0.005	0	0	2	0	2	1	0	5
Lamprey on:										
Chinook salmon			0	4	2	3	2	1	0	12
Lake trout			0	5	3	2	2	0	0	12
Angler hours			555	9,367	7,042	7,425	6,930	2,427	530	34,275
Angler trips			81	1,282	984	1,068	1,002	351	72	4,840
Anglers										
Resident			20	402	308	356	397	133	12	1,628
Nonresident			66	880	676	712	605	218	60	3,217
Charter excursions			21	262	204	223	217	76	21	1,024

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, 2000.

Species	Total catch		Month												Season
	per hour	per excursion	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Coho salmon	0.0263	0.7513	0	0	25	422	52	0	0	0	71	18	1	0	589
Chinook salmon	0.0224	0.6416	0	0	0	218	88	0	0	0	168	29	0	0	503
Rainbow trout	0.0695	1.9872	54	184	289	104	1	0	4	2	38	352	452	78	1,558
Brown trout	0.0086	0.2474	2	17	94	62	2	0	0	0	3	3	10	1	194
Lake trout	0.0002	0.0051	0	0	0	2	0	0	0	0	0	0	0	2	4
Yellow perch	0.0051	0.1467	0	0	0	0	0	0	0	0	115	0	0	0	115
Walleye	0.0222	0.6352	42	63	3	0	0	134	98	54	32	3	21	48	498
Other	0.0041	0.1186	0	0	15	13	3	26	2	5	16	13	0	0	93
Angler hours			625	2,066	3,560	3,118	364	598	421	373	2,372	4,247	3,372	1,317	22,432
Angler trips			95	293	488	467	56	82	53	54	336	594	455	181	3,154
Anglers															
Resident			46	98	197	182	40	35	16	25	126	197	157	73	1,192
Nonresident			49	195	291	285	16	47	37	29	210	397	298	108	1,962
Charter excursions			26	71	122	107	13	22	15	17	81	146	117	47	784

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.006	0.400	0	35	55	56	50	3	0	199
Chinook salmon	0.019	1.355	0	187	103	158	177	50	0	675
Rainbow trout	0.006	0.444	0	10	36	114	56	5	0	221
Brown trout	0.001	0.052	0	4	5	7	8	2	0	26
Lake trout	0.010	0.691	0	77	55	117	84	11	0	344
Yellow perch	0.653	46.349	5,642	764	2,507	4,525	8,408	1,236	0	23,082
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.004	0	1	0	1	0	0	0	2
Lamprey on:										
Chinook salmon			0	0	0	3	0	0	0	3
Lake trout			0	1	1	6	0	0	0	8
Angler hours			6,073	5,267	5,204	9,463	8,171	1,146	0	35,323
Angler trips			1,313	1,208	1,034	1,925	1,664	246	0	7,390
Anglers										
Resident			1,313	1,173	1,011	1,790	1,597	238	0	7,122
Nonresident			0	35	23	135	67	8	0	268
Charter excursions			46	74	79	145	130	24	0	498

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.063	1.640	144	253	165	210	454	219	3	1,448
Chinook salmon	0.187	4.867	38	856	562	989	1,339	511	3	4,298
Rainbow trout	0.040	1.050	27	63	75	400	325	36	1	927
Brown trout	0.016	0.409	91	42	157	22	31	18	0	361
Lake trout	0.097	2.537	0	418	276	663	851	32	0	2,240
Yellow perch	0.000	0.007	0	0	0	0	6	0	0	6
Walleye	0.000	0.002	0	0	0	1	1	0	0	2
Other	0.000	0.003	0	0	0	0	3	0	0	3
Lamprey on:										
Chinook salmon			0	1	1	1	2	0	0	5
Lake trout			0	4	9	15	11	0	0	39
Angler hours			478	3,561	3,510	5,006	7,454	2,956	20	22,984
Angler trips			80	573	550	817	1,191	506	4	3,721
Anglers										
Resident			74	432	374	582	898	385	2	2,747
Nonresident			6	141	176	235	293	121	2	974
Charter excursions			17	141	127	197	278	122	1	883

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.042	1.126	0	7	14	61	71	122	2	277
Chinook salmon	0.103	2.748	0	53	50	199	289	82	3	676
Rainbow trout	0.030	0.785	0	15	30	60	69	18	1	193
Brown trout	0.011	0.293	0	15	19	29	8	1	0	72
Lake trout	0.090	2.382	0	40	76	218	210	42	0	586
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	0	1	1	0	0	2
Lake trout			0	0	2	1	1	1	0	5
Angler hours			0	452	862	1,625	2,426	1,151	24	6,540
Angler trips			0	74	141	275	328	173	4	995
Anglers										
Resident			0	42	95	226	258	149	4	774
Nonresident			0	32	46	49	73	24	0	224
Charter excursions			0	21	37	69	76	41	2	246

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.031	0.733	22	70	94	173	520	389	4	1,272
Chinook salmon	0.164	3.881	66	922	979	1,804	2,111	826	26	6,734
Rainbow trout	0.024	0.573	4	59	60	279	487	90	15	994
Brown trout	0.007	0.164	79	20	43	51	76	12	3	284
Lake trout	0.104	2.453	0	339	611	1,392	1,832	82	0	4,256
Yellow perch	0.000	0.003	0	0	4	0	1	0	1	6
Walleye	0.000	0.001	1	0	0	0	0	0	0	1
Other	0.000	0.002	0	0	0	0	0	3	0	3
Lamprey on:										
Chinook salmon			0	2	1	10	2	0	0	15
Lake trout			0	2	5	10	8	0	0	25
Angler hours			446	4,184	5,519	10,390	14,605	5,602	192	40,937
Angler trips			90	728	1,010	1,895	2,623	1,068	34	7,448
Anglers										
Resident			87	622	902	1,538	2,193	947	24	6,313
Nonresident			3	106	108	357	430	121	10	1,135
Charter excursions			22	172	240	436	611	245	9	1,735

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.035	0.714	0	4	5	39	75	24	0	147
Chinook salmon	0.149	3.019	1	39	77	182	252	70	1	622
Rainbow trout	0.022	0.437	0	1	11	20	46	12	0	90
Brown trout	0.008	0.170	6	5	3	9	9	3	0	35
Lake trout	0.027	0.549	0	10	14	39	33	17	0	113
Yellow perch	0.000	0.005	0	0	0	1	0	0	0	1
Walleye	0.000	0.005	1	0	0	0	0	0	0	1
Other	0.002	0.039	0	0	0	8	0	0	0	8
Lamprey on:										
Chinook salmon			0	0	0	2	0	0	0	2
Lake trout			0	0	0	0	0	0	0	0
Angler hours			28	167	402	1,176	1,783	589	22	4,167
Angler trips			6	35	78	220	341	117	7	804
Anglers										
Resident			6	35	55	156	237	95	7	591
Nonresident			0	0	23	64	104	22	0	213
Charter excursions			3	11	21	53	84	31	3	206

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.043	1.112	0	3	19	47	102	38	0	209
Chinook salmon	0.150	3.883	0	8	102	202	333	85	0	730
Rainbow trout	0.048	1.245	0	3	15	57	77	82	0	234
Brown trout	0.013	0.330	0	0	10	25	26	1	0	62
Lake trout	0.044	1.128	0	0	26	70	93	23	0	212
Yellow perch	0.002	0.053	0	0	0	8	2	0	0	10
Walleye	0.005	0.128	0	1	0	22	0	1	0	24
Other	0.026	0.665	0	0	0	93	17	15	0	125
Lamprey on:										
Chinook salmon			0	0	0	0	3	1	0	4
Lake trout			0	0	0	3	4	2	0	9
Angler hours			0	72	618	1,486	2,066	626	0	4,867
Angler trips			0	12	100	238	338	113	0	801
Anglers										
Resident			0	8	53	96	137	84	0	378
Nonresident			0	4	47	142	201	29	0	423
Charter excursions			0	4	22	61	75	26	0	188

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.073	1.617	1	49	98	222	331	101	0	802
Chinook salmon	0.215	4.780	1	93	261	917	974	125	0	2,371
Rainbow trout	0.047	1.046	0	40	66	177	171	65	0	519
Brown trout	0.025	0.546	45	25	37	131	32	1	0	271
Lake trout	0.047	1.054	0	21	86	241	168	7	0	523
Yellow perch	0.004	0.079	0	0	28	10	1	0	0	39
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	0	0	1	0	0	1
Lake trout			0	0	1	0	1	0	0	2
Angler hours			56	634	1,287	4,265	4,116	664	0	11,021
Angler trips			13	102	215	722	703	119	0	1,874
Anglers										
Resident			13	98	166	507	481	85	0	1,350
Nonresident			0	4	49	215	222	34	0	524
Charter excursions			6	29	58	177	193	33	0	496

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.047	1.343	3	74	119	331	1,123	439	0	2,089
Chinook salmon	0.166	4.728	2	351	544	1,838	3,918	699	0	7,352
Rainbow trout	0.040	1.132	16	66	181	421	829	248	0	1,761
Brown trout	0.016	0.456	196	165	64	148	118	18	0	709
Lake trout	0.049	1.404	0	176	218	746	1,007	36	0	2,183
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.002	0	0	0	1	2	0	0	3
Lamprey on:										
Chinook salmon			0	0	7	25	22	2	0	56
Lake trout			0	1	6	14	16	2	0	39
Angler hours			525	2,199	3,880	10,660	22,002	4,913	0	44,178
Angler trips			98	312	576	1,603	3,182	737	0	6,508
Anglers										
Resident			90	281	480	1,294	2,466	583	0	5,194
Nonresident			8	31	96	309	716	154	0	1,314
Charter excursions			24	76	130	383	761	181	0	1,555

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.055	1.533	6	51	40	225	975	366	0	1,663
Chinook salmon	0.165	4.618	18	453	463	1,512	2,301	264	0	5,011
Rainbow trout	0.033	0.922	52	46	395	286	155	66	0	1,000
Brown trout	0.035	0.982	489	82	51	273	160	10	0	1,065
Lake trout	0.056	1.570	3	83	508	621	465	23	0	1,703
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			3	3	1	23	21	2	0	53
Lake trout			0	3	4	24	14	0	0	45
Angler hours			1,179	1,406	4,656	8,840	12,114	2,228	0	30,423
Angler trips			201	243	670	1,336	1,789	376	0	4,615
Anglers										
Resident			189	198	600	1,171	1,424	290	0	3,872
Nonresident			12	45	70	165	365	86	0	743
Charter excursions			52	60	145	307	434	87	0	1,085

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.031	0.836	0	1	1	17	56	17	0	92
Chinook salmon	0.140	3.818	0	2	37	220	157	4	0	420
Rainbow trout	0.029	0.782	0	2	17	39	24	4	0	86
Brown trout	0.024	0.645	0	0	2	39	28	2	0	71
Lake trout	0.046	1.255	0	0	20	73	43	2	0	138
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	0	2	0	0	0	2
Lake trout			0	0	0	0	0	0	0	0
Angler hours			0	20	282	1,498	1,088	121	0	3,009
Angler trips			0	4	42	219	169	17	0	451
Anglers										
Resident			0	4	42	192	159	11	0	408
Nonresident			0	0	0	27	10	6	0	43
Charter excursions			0	1	11	52	41	5	0	110

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.084	2.279	0	3	19	47	963	751	4	1,787
Chinook salmon	0.099	2.705	0	2	220	710	1,062	122	5	2,121
Rainbow trout	0.014	0.376	0	0	79	120	65	31	0	295
Brown trout	0.021	0.564	34	100	70	131	102	5	0	442
Lake trout	0.060	1.628	0	109	379	408	369	11	0	1,276
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.004	0	0	1	1	1	0	0	3
Lamprey on:										
Chinook salmon			0	0	0	4	1	1	0	6
Lake trout			0	0	3	2	0	0	0	5
Angler hours			102	715	2,587	5,393	9,796	2,729	48	21,369
Angler trips			16	120	422	882	1,606	443	8	3,497
Anglers										
Resident			16	103	349	714	1,384	349	4	2,919
Nonresident			0	17	73	168	222	94	4	578
Charter excursions			7	25	89	191	374	96	2	784

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.008	0.188	0	0	6	25	88	6	0	125
Chinook salmon	0.214	4.973	0	2	228	1,434	1,497	140	1	3,302
Rainbow trout	0.016	0.372	0	0	52	95	97	3	0	247
Brown trout	0.010	0.229	0	20	14	58	53	7	0	152
Lake trout	0.049	1.145	0	140	266	254	84	16	0	760
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.011	0	0	3	0	4	0	0	7
Lamprey on:										
Chinook salmon			0	0	0	1	1	0	0	2
Lake trout			0	8	0	1	1	1	0	11
Angler hours			0	537	2,111	6,073	5,963	754	15	15,453
Angler trips			0	103	379	1,104	1,080	135	3	2,804
Anglers										
Resident			0	78	285	736	761	93	3	1,956
Nonresident			0	25	94	368	319	42	0	848
Charter excursions			0	24	90	259	256	34	1	664

Appendix 17.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on West Grand Traverse Bay (grids 715, 815, and 915), Lake Michigan, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.006	0.092	0	0	0	3	16	7	0	26
Chinook salmon	0.059	0.926	0	0	0	20	141	100	0	261
Rainbow trout	0.001	0.018	0	0	2	1	2	0	0	5
Brown trout	0.005	0.082	0	2	5	7	9	0	0	23
Lake trout	0.195	3.057	0	93	178	223	336	32	0	862
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.002	0.028	0	0	5	3	0	0	0	8
Lamprey on:										
Chinook salmon			0	0	0	0	0	1	0	1
Lake trout			0	3	3	3	1	0	0	10
Angler hours			0	243	560	932	1,887	797	0	4,419
Angler trips			0	64	140	217	462	200	0	1,083
Anglers										
Resident			0	57	108	136	343	152	0	796
Nonresident			0	7	32	81	119	48	0	287
Charter excursions			0	14	34	58	122	54	0	282

Appendix 18.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on East Grand Traverse Bay (grids 716, 816, and 916), Lake Michigan, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.004	0.068	0	0	0	0	8	14	0	22
Chinook salmon	0.075	1.158	0	0	2	13	156	202	0	373
Rainbow trout	0.000	0.006	0	0	1	0	0	1	0	2
Brown trout	0.009	0.137	0	4	17	10	10	3	0	44
Lake trout	0.150	2.311	10	99	47	293	234	61	0	744
Yellow perch	0.015	0.227	0	0	73	0	0	0	0	73
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.032	0.494	0	7	151	1	0	0	0	159
Lamprey on:										
Chinook salmon			0	0	0	0	5	0	0	5
Lake trout			0	0	0	0	3	0	0	3
Angler hours			24	441	660	1,024	1,768	1,056	0	4,973
Angler trips			6	113	173	258	444	267	0	1,261
Anglers										
Resident			6	73	122	165	276	180	0	822
Nonresident			0	40	51	93	168	87	0	439
Charter excursions			1	24	50	61	112	74	0	322

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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.001	0.015	0	0	0	4	0	0	0	4
Chinook salmon	0.012	0.243	0	0	1	26	31	7	0	65
Rainbow trout	0.002	0.037	0	0	4	1	5	0	0	10
Brown trout	0.001	0.026	0	0	2	2	2	1	0	7
Lake trout	0.212	4.429	0	121	104	485	343	134	0	1,187
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.004	0.075	0	0	2	18	0	0	0	20
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	0	16	19	3	0	38
Angler hours			0	316	640	2,010	1,965	666	0	5,597
Angler trips			0	82	153	425	404	150	0	1,214
Anglers										
Resident			0	43	71	174	178	61	0	527
Nonresident			0	39	82	251	226	89	0	687
Charter excursions			0	20	36	90	87	35	0	268

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 and Petoskey, Lake Michigan, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.007	0.098	0	0	0	0	3	2	0	5
Chinook salmon	0.069	0.961	0	0	0	0	34	15	0	49
Rainbow trout	0.001	0.020	0	0	0	1	0	0	0	1
Brown trout	0.004	0.059	0	0	0	0	2	1	0	3
Lake trout	0.178	2.490	0	0	7	28	92	0	0	127
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.001	0.020	0	0	1	0	0	0	0	1
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	0	0	5	0	0	5
Angler hours			0	8	76	108	428	92	0	712
Angler trips			0	2	19	27	107	23	0	178
Anglers										
Resident			0	0	5	16	23	8	0	52
Nonresident			0	2	14	11	84	15	0	126
Charter excursions			0	1	5	8	30	7	0	51

Appendix 21.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Little Bay de Noc (grids 206 and 306), Lake Michigan, 2000.

Species	Total catch		Month								
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Season
Coho salmon	0.000	0.000	0	0	0	0	0	0	0	0	0
Chinook salmon	0.000	0.000	0	0	0	0	0	0	0	0	0
Rainbow trout	0.000	0.000	0	0	0	0	0	0	0	0	0
Brown trout	0.000	0.000	0	0	0	0	0	0	0	0	0
Lake trout	0.000	0.000	0	0	0	0	0	0	0	0	0
Yellow perch	0.009	0.144	0	0	6	0	6	16	1	0	29
Walleye	0.418	6.423	0	162	256	109	176	89	339	160	1,291
Other	0.052	0.801	0	0	151	2	8	0	0	0	161
Lamprey on:											
Chinook salmon			0	0	0	0	0	0	0	0	0
Lake trout			0	0	0	0	0	0	0	0	0
Angler hours			0	342	578	331	444	416	679	296	3,086
Angler trips			0	45	90	58	60	59	98	43	453
Anglers											
Resident			0	15	17	21	48	27	49	15	192
Nonresident			0	30	73	37	12	32	49	28	261
Charter excursions			0	20	40	21	29	27	45	19	201

Appendix 22.—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, 2000.

Species	Total catch		Month								
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	Season	
Coho salmon	0.002	0.022	0	0	0	2	0	0	0	0	2
Chinook salmon	0.249	3.409	0	0	2	163	118	34	0	0	317
Rainbow trout	0.016	0.215	0	0	1	11	8	0	0	0	20
Brown trout	0.004	0.054	0	0	0	2	2	1	0	0	5
Lake trout	0.027	0.376	0	15	0	18	2	0	0	0	35
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0	0
Lamprey on:											
Chinook salmon			0	0	1	13	10	2	0	0	26
Lake trout			0	4	0	1	0	0	0	0	5
Angler hours			0	28	32	537	426	252	0	0	1,275
Angler trips			0	7	8	133	99	44	0	0	291
Anglers											
Resident			0	7	6	111	95	42	0	0	261
Nonresident			0	0	2	22	4	2	0	0	30
Charter excursions			0	3	3	41	33	13	0	0	93

Appendix 23.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.003	0.060	0	0	0	5	0	0	0	5
Chinook salmon	0.239	4.578	0	0	0	135	217	28	0	380
Rainbow trout	0.008	0.145	0	0	0	3	8	1	0	12
Brown trout	0.001	0.024	0	0	0	0	2	0	0	2
Lake trout	0.041	0.795	0	0	0	33	33	0	0	66
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.001	0.012	0	0	0	0	1	0	0	1
Lamprey on:										
Chinook salmon			0	0	0	12	25	0	0	37
Lake trout			0	0	0	5	3	0	0	8
Angler hours			0	0	0	539	911	141	0	1,591
Angler trips			0	0	0	100	157	29	0	286
Anglers										
Resident			0	0	0	55	94	24	0	173
Nonresident			0	0	0	45	63	5	0	113
Charter excursions			0	0	0	28	47	8	0	83

Appendix 24.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.004	0.101	0	0	1	8	5	0	0	14
Chinook salmon	0.173	3.899	0	0	72	239	211	20	0	542
Rainbow trout	0.022	0.496	0	1	12	16	39	1	0	69
Brown trout	0.005	0.115	0	1	4	0	8	3	0	16
Lake trout	0.099	2.230	0	18	95	71	126	0	0	310
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.009	0.194	0	24	3	0	0	0	0	27
Other	0.008	0.180	0	0	5	6	14	0	0	25
Lamprey on:										
Chinook salmon			0	0	8	24	16	0	0	48
Lake trout			0	0	1	6	9	0	0	16
Angler hours			0	109	520	1,187	1,208	109	0	3,132
Angler trips			0	28	94	168	206	21	0	517
Anglers										
Resident			0	24	44	140	176	21	0	405
Nonresident			0	4	50	28	30	0	0	112
Charter excursions			0	7	24	45	58	5	0	139

Appendix 25.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.002	0.041	0	1	0	3	3	2	0	9
Chinook salmon	0.139	2.546	0	7	87	229	188	44	0	555
Rainbow trout	0.019	0.349	0	0	15	22	31	8	0	76
Brown trout	0.002	0.028	0	0	0	3	1	2	0	6
Lake trout	0.137	2.500	0	66	147	179	150	3	0	545
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.001	0.014	0	0	0	0	1	2	0	3
Other	0.000	0.005	0	0	0	0	1	0	0	1
Lamprey on:										
Chinook salmon			0	0	2	8	8	3	0	21
Lake trout			0	0	3	5	5	0	0	13
Angler hours			0	150	597	1,564	1,388	287	0	3,986
Angler trips			0	33	116	293	273	57	0	772
Anglers										
Resident			0	33	102	265	238	49	0	687
Nonresident			0	0	14	28	35	8	0	85
Charter excursions			0	10	38	78	75	17	0	218

Appendix 26.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.002	0.032	0	1	0	4	12	1	0	18
Chinook salmon	0.138	2.625	0	20	123	438	630	272	0	1,483
Rainbow trout	0.016	0.299	0	7	23	69	64	6	0	169
Brown trout	0.002	0.046	0	2	3	5	12	4	0	26
Lake trout	0.145	2.749	0	93	284	567	584	25	0	1,553
Yellow perch	0.000	0.009	0	0	0	5	0	0	0	5
Walleye	0.000	0.007	0	0	0	0	4	0	0	4
Other	0.000	0.009	0	0	0	3	1	1	0	5
Lamprey on:										
Chinook salmon			0	4	10	27	34	4	0	79
Lake trout			0	9	2	15	10	2	0	38
Angler hours			0	411	1,404	3,338	4,126	1,450	0	10,729
Angler trips			0	82	231	588	710	259	0	1,870
Anglers										
Resident			0	69	205	544	631	241	0	1,690
Nonresident			0	13	26	44	79	18	0	180
Charter excursions			0	22	69	177	212	85	0	565

Appendix 27.—Total catch per hour, catch per excursion, number caught, and fishing effort (angler hours, trips, and charter excursions) for charter boats on Saginaw Bay, Lake Huron, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.004	0.113	0	29	49	29	8	0	0	115
Chinook salmon	0.080	2.135	1	199	449	860	601	72	0	2,182
Rainbow trout	0.008	0.224	0	11	24	94	88	12	0	229
Brown trout	0.002	0.045	1	4	10	17	8	6	0	46
Lake trout	0.180	4.818	1	1,015	1,133	1,205	1,453	117	0	4,924
Yellow perch	0.085	2.282	0	0	164	575	1,062	531	0	2,332
Walleye	0.095	2.556	0	5	93	1,739	758	17	0	2,612
Other	0.013	0.341	0	5	52	182	88	22	0	349
Lamprey on:										
Chinook salmon			0	14	35	82	56	2	0	189
Lake trout			0	13	16	26	30	1	0	86
Angler hours			40	2,479	4,936	10,686	7,651	1,579	0	27,370
Angler trips			8	428	850	1,807	1,334	283	0	4,710
Anglers										
Resident			5	412	751	1,688	1,243	269	0	4,368
Nonresident			3	16	99	119	91	14	0	342
Charter excursions			2	113	184	400	286	37	0	1,022

Appendix 28.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.006	0.139	0	12	36	27	3	0	0	78
Chinook salmon	0.147	3.318	0	48	401	818	545	56	0	1,868
Rainbow trout	0.014	0.316	0	1	19	84	70	4	0	178
Brown trout	0.002	0.055	0	0	7	15	7	2	0	31
Lake trout	0.303	6.812	0	346	872	1,183	1,330	104	0	3,835
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.002	0.044	0	0	1	12	9	3	0	25
Other	0.001	0.027	0	0	4	9	1	1	0	15
Lamprey on:										
Chinook salmon			0	1	33	86	55	1	0	176
Lake trout			0	1	12	26	29	1	0	69
Angler hours			0	712	2,675	5,007	3,889	386	0	12,669
Angler trips			0	121	454	853	677	69	0	2,174
Anglers										
Resident			0	114	410	806	635	63	0	2,028
Nonresident			0	7	44	47	42	6	0	146
Charter excursions			0	30	111	227	178	17	0	563

Appendix 29.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.006	0.124	0	3	4	6	2	1	0	16
Chinook salmon	0.119	2.589	4	17	48	95	108	62	0	334
Rainbow trout	0.018	0.395	2	3	9	10	18	9	0	51
Brown trout	0.002	0.047	0	0	1	4	0	1	0	6
Lake trout	0.126	2.729	0	30	121	112	73	16	0	352
Yellow perch	0.047	1.016	0	0	0	131	0	0	0	131
Walleye	0.002	0.039	0	0	3	0	2	0	0	5
Other	0.001	0.016	0	0	1	0	1	0	0	2
Lamprey on:										
Chinook salmon			1	0	4	4	5	1	0	15
Lake trout			0	1	1	1	0	0	0	3
Angler hours			56	170	649	707	777	438	0	2,797
Angler trips			16	33	116	113	149	85	0	512
Anglers										
Resident			4	33	102	106	132	84	0	461
Nonresident			12	0	14	7	17	1	0	51
Charter excursions			3	8	29	31	37	21	0	129

Appendix 30.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.041	1.096	3	146	27	6	1	0	0	183
Chinook salmon	0.124	3.311	8	288	179	77	1	0	0	553
Rainbow trout	0.025	0.659	0	88	9	11	2	0	0	110
Brown trout	0.000	0.006	0	1	0	0	0	0	0	1
Lake trout	0.037	0.994	2	53	47	64	0	0	0	166
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.012	0	0	0	2	0	0	0	2
Other	0.004	0.102	0	12	4	1	0	0	0	17
Lamprey on:										
Chinook salmon			0	10	6	9	0	0	0	25
Lake trout			0	6	3	0	0	0	0	9
Angler hours			207	2,486	1,115	616	51	0	0	4,474
Angler trips			33	403	181	106	11	0	0	734
Anglers										
Resident			31	396	177	95	6	0	0	705
Nonresident			2	7	4	11	5	0	0	29
Charter excursions			8	84	44	28	3	0	0	167

Appendix 31.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.024	0.485	1	15	0	0	0	0	0	16
Chinook salmon	0.079	1.606	4	43	4	2	0	0	0	53
Rainbow trout	0.016	0.333	0	11	0	0	0	0	0	11
Brown trout	0.003	0.061	2	0	0	0	0	0	0	2
Lake trout	0.030	0.606	0	19	1	0	0	0	0	20
Yellow perch	0.018	0.364	0	0	0	12	0	0	0	12
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.001	0.030	0	0	1	0	0	0	0	1
Lamprey on:										
Chinook salmon			0	1	0	0	0	0	0	1
Lake trout			0	1	0	0	0	0	0	1
Angler hours			86	467	66	40	15	0	0	674
Angler trips			20	87	12	8	3	0	0	130
Anglers										
Resident			20	87	12	5	3	0	0	127
Nonresident			0	0	0	3	0	0	0	3
Charter excursions			5	23	2	2	1	0	0	33

Appendix 32.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.032	1.579	0	1	79	21	9	10	0	120
Chinook salmon	0.005	0.224	0	1	4	3	0	9	0	17
Rainbow trout	0.005	0.250	0	1	10	2	1	5	0	19
Brown trout	0.001	0.039	0	0	1	2	0	0	0	3
Lake trout	0.209	10.211	0	9	373	210	72	112	0	776
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	1	2	0	0	0	3
Angler hours			0	25	1,709	1,232	319	430	0	3,715
Angler trips			0	5	195	153	38	60	0	451
Anglers										
Resident			0	0	46	25	1	27	0	99
Nonresident			0	5	149	128	37	33	0	352
Charter excursions			0	1	31	26	7	11	0	76

Appendix 33.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.000	0.000	0	0	0	0	0	0	0	0
Chinook salmon	0.000	0.000	0	0	0	0	0	0	0	0
Rainbow trout	0.000	0.000	0	0	0	0	0	0	0	0
Brown trout	0.000	0.000	0	0	0	0	0	0	0	0
Lake trout	0.386	13.200	0	0	75	205	116	0	0	396
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	0	2	3	0	0	5
Angler hours			0	0	200	604	222	0	0	1,026
Angler trips			0	0	30	84	42	0	0	156
Anglers										
Resident			0	0	20	38	0	0	0	58
Nonresident			0	0	10	46	42	0	0	98
Charter excursions			0	0	6	16	8	0	0	30

Appendix 34.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.004	0.150	0	2	1	9	2	4	0	18
Chinook salmon	0.000	0.017	0	0	0	1	0	1	0	2
Rainbow trout	0.000	0.000	0	0	0	0	0	0	0	0
Brown trout	0.000	0.000	0	0	0	0	0	0	0	0
Lake trout	0.289	11.317	0	91	262	514	330	151	10	1,358
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	0	3	0	0	0	3
Angler hours			0	307	968	1,836	1,072	487	36	4,706
Angler trips			0	34	109	231	126	74	6	580
Anglers										
Resident			0	32	89	150	83	49	6	409
Nonresident			0	2	20	81	43	25	0	171
Charter excursions			0	7	20	43	27	22	1	120

Appendix 35.—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, 2000.

Species	Total catch		Month							Season
	per hour	per excursion	Apr	May	Jun	Jul	Aug	Sep	Oct	
Coho salmon	0.000	0.000	0	0	0	0	0	0	0	0
Chinook salmon	0.000	0.000	0	0	0	0	0	0	0	0
Rainbow trout	0.000	0.000	0	0	0	0	0	0	0	0
Brown trout	0.000	0.000	0	0	0	0	0	0	0	0
Lake trout	0.267	9.026	0	0	9	269	396	30	0	704
Yellow perch	0.000	0.000	0	0	0	0	0	0	0	0
Walleye	0.000	0.000	0	0	0	0	0	0	0	0
Other	0.000	0.000	0	0	0	0	0	0	0	0
Lamprey on:										
Chinook salmon			0	0	0	0	0	0	0	0
Lake trout			0	0	0	1	1	0	0	2
Angler hours			0	0	44	945	1,568	80	0	2,637
Angler trips			0	0	11	134	202	10	0	357
Anglers										
Resident			0	0	4	12	35	0	0	51
Nonresident			0	0	7	122	167	10	0	306
Charter excursions			0	0	4	30	42	2	0	78