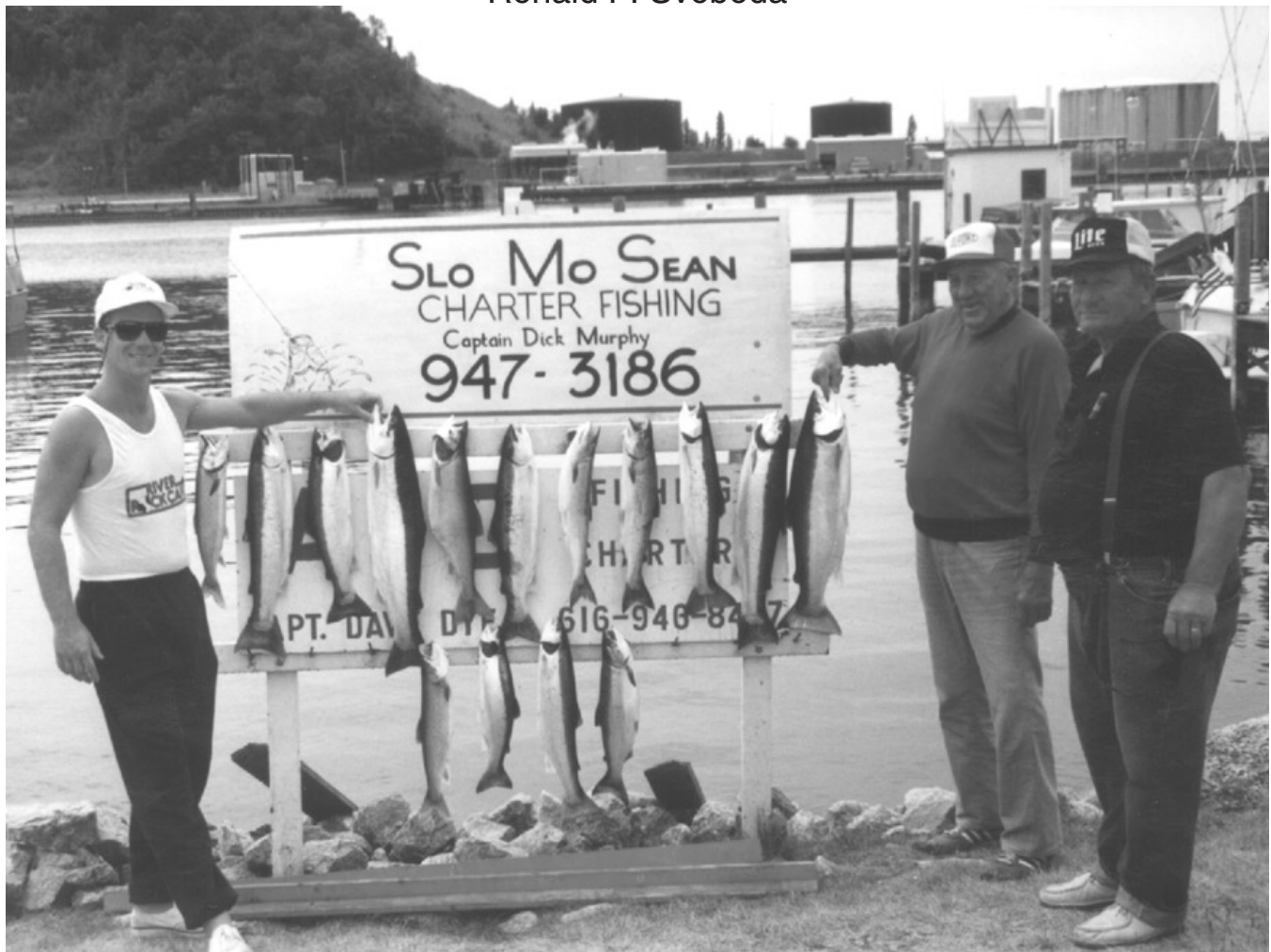


Charter Boat Catch and Effort from the Michigan Waters of the Great Lakes, 1994

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**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 |
|--------------------|------|-------|------|

(INSTRUCTIONS ON REVERSE SIDE)

| Date | Port Fished | Grid Fished | Hours Fished (Dock to Dock) | No. Anglers | | Daily Catch | | | | | | | | No. Lamprey seen on | | |
|------|-------------|-------------|--------------------------------|-------------|-------------|-------------|-----|-----|-----|-----|-----|-----|-----|------------------------|-----|--|
| | | | | Res. | Non Res. | COH | CHS | RBT | BNT | LAT | YEP | WAE | OTH | CHS | LAT | |
| 1 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | |
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| 30 | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | |

COMMENTS _____

SIGNATURE _____ DATE _____

PR 8206 (Rev. 4/89)

Figure 1.—Michigan charter boat catch report form.

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