# Wisconsin's 2019 open water sportfishing effort and harvest from Lake Michigan and Green Bay 

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Summary - The sport fishery in Wisconsin waters of Lake Michigan and Green Bay was documented from March 1, 2019 through November 20, 2019. Fishing effort, harvest, and harvest-rates were determined from 1) a stratified-random creel survey of launched-boat, pier, shore, and stream anglers; 2) a randomized mail survey of mooredboat anglers; and 3) mandatory charter-boat reporting. For a detailed description of methods see Eggold 1995.

Anglers spent an estimated 2,362,083 hours fishing on Lake Michigan and Green Bay during 2019 with boat-angler effort at $1,974,562$ hours, or $84 \%$ of the total hours. Fishing effort during 2019 was slightly lower than effort in 2018 and was approximately $9 \%$ lower than the ten-year average.

The estimated harvest of 377,819 fish was dominated by walleye $(92,236)$ followed by yellow perch $(87,800)$. Walleye and yellow perch harvest combined was $48 \%$ of the total estimated harvest. The boat fishery, comprised of launched-boat, moored-boat, and charter-boat anglers, dominated the fishery by harvesting an estimated 346,227 fish, which was $92 \%$ of the total harvest and again led by walleye $(83,058)$ followed by yellow perch $(80,218)$. Pier anglers harvested 3,009 fish, primarily yellow perch $(1,592)$ and Chinook salmon (442), followed by smallmouth bass (367). Stream anglers harvested 16,351 fish, primarily walleye $(8,894)$ followed by rainbow trout $(2,579)$ and Chinook salmon ( 2,539 ). Shore anglers harvested 10,232 fish, primarily yellow perch $(5,990)$ followed by Chinook salmon $(1,446)$ and brown trout $(1,263)$. Overall harvestrates were highest for walleye at 0.0390 fish/hour, followed by yellow perch ( 0.0372 fish/hour) and Chinook salmon ( 0.0267 fish/hour).

The 2019 Chinook harvest of 63,043 fish was lower than the previous year's harvest and approximately $62 \%$ below the ten-year average. The overall harvest rate for salmonids in 2019 was 0.0795 , down from the ten-year average harvest rate.

Coho harvest in 2019 was 32,197 fish. While coho harvest is typically variable, harvest drastically declined north of Milwaukee, WI, suggesting that coho were not traveling
further north, influencing harvest numbers. The 2019 rainbow trout harvest of 50,258 fish was approximately 22\% below the ten-year average. Brown trout harvest in 2019 was 8,013 , which was $53 \%$ below the ten-year average. A total of 34,197 lake trout were harvested in 2019, which was $35 \%$ above the ten-year average.

The 2019 harvest of yellow perch in Green Bay was 84,200 which was $43 \%$ below the ten-year average but higher than harvest in 2016. The Lake Michigan yellow perch harvest in 2019 was 3,600 fish. Although this is almost $68 \%$ below the ten-year average, it is the highest harvest of yellow perch in Lake Michigan since 2015. Perch harvest in Lake Michigan remains on an overall downward trend observed since 1993. The sport catch in 2019 was primarily comprised of the 2016 year-class. Age was assigned using the anal spines of 106 Lake Michigan angler-caught yellow perch during 2019. The 2016 year-class represented $76 \%$ of the total. The 2015 year-class, which comprised the majority of the catch in 2018, represented $15 \%$ of the total harvest.

In 2019, the standard weight of a 30 -inch Chinook was 10.9 pounds, which was a slight increase from 2018 and approximately $10 \%$ above the ten-year average. The standard weight of a 23 -inch Coho was 4.5 pounds, which was approximately $11 \%$ above the tenyear average. The standard weight of a 25 -inch rainbow trout was 4.4 pounds, which was $5 \%$ above the ten-year average. The standard weight of a 27 -inch lake trout was 6.3 pounds, which was $10 \%$ above the ten-year average. The standard weight of a 25inch brown trout was 5.5 pounds, which was almost $34 \%$ above the ten-year average. Although overall harvest was lower in 2019 than the previous year, fish that were harvested were overall larger.

## REFERENCES

Eggold, B.T. 1995. Wisconsin's 1995 open water sportfishing effort and catch from Lake Michigan and Green Bay. Wisconsin Department of Natural Resources, Plymouth, Wisconsin. 19 pages.

Table 1. Estimated angler effort (hours) by location in Wisconsin waters of Lake Michigan and Green Bay during March through

| Location | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Kenosha Co. | $\begin{array}{r} 146,762 \\ 8,287 \end{array}$ | $\underset{5,801}{116,032}$ | $\begin{array}{r} 135,980 \\ 2,851 \end{array}$ | $\begin{array}{r} 128,467 \\ 5,199 \end{array}$ | $\begin{array}{r} 129,736 \\ 5,422 \end{array}$ | $\begin{array}{r} 101,058 \\ 4,990 \end{array}$ | $\begin{array}{r} 108,874 \\ 5,432 \end{array}$ | $\begin{array}{r} 90,700 \\ 3,810 \end{array}$ | $\begin{array}{r} 92,655 \\ 4,185 \end{array}$ | $\begin{array}{r} 99,315 \\ 4,417 \end{array}$ | $\begin{array}{r} 114,958 \\ 5,223 \end{array}$ |
| Racine Co. | $\begin{array}{r} 161,959 \\ 9,422 \end{array}$ | $\underset{7,225}{151,135}$ | $\begin{array}{r} 131,342 \\ 10,091 \end{array}$ | $\underset{8,394}{121,473}$ | $\underset{7,073}{122,082}$ | $\underset{9,243}{102,948}$ | $\begin{array}{r} 106,901 \\ 7,928 \end{array}$ | $\begin{array}{r} 95,490 \\ 6,787 \end{array}$ | $\begin{array}{r} 110,575 \\ 11,954 \end{array}$ | $\begin{array}{r} 98,387 \\ 6,374 \end{array}$ | $\underset{8,609}{120,229}$ |
| Milwaukee Co. | $\begin{array}{r} 340,503 \\ 14,174 \end{array}$ | $\begin{array}{r} 276,843 \\ 15,204 \end{array}$ | $\begin{array}{r} 324,011 \\ 14,704 \end{array}$ | $\begin{array}{r} 290,544 \\ 11,332 \end{array}$ | $\begin{array}{r} 255,140 \\ 10,894 \end{array}$ | $\begin{array}{r} 267,451 \\ 10,279 \end{array}$ | $\begin{array}{r} 295,517 \\ 12,743 \end{array}$ | $\begin{array}{r} 267,191 \\ 14,736 \end{array}$ | $\begin{array}{r} 233,031 \\ 13,192 \end{array}$ | $\underset{8,028}{180,123}$ | $\begin{array}{r} 273,035 \\ 12,724 \end{array}$ |
| Ozaukee Co. | $\begin{array}{r} 215,809 \\ 10,210 \end{array}$ | $\begin{array}{r} 256,961 \\ 19,364 \end{array}$ | $\begin{array}{r} 208,450 \\ 12,203 \end{array}$ | $\begin{array}{r} 203,861 \\ 9,749 \end{array}$ | $\begin{array}{r} 189,524 \\ 9,532 \end{array}$ | $\underset{8,481}{172,896}$ | $\begin{array}{r} 215,153 \\ 13,880 \end{array}$ | $\begin{array}{r} 179,360 \\ 13,185 \end{array}$ | $\begin{array}{r} 167,683 \\ 10,435 \end{array}$ | $\begin{array}{r} 156,411 \\ 10,337 \end{array}$ | $\begin{array}{r} 196,611 \\ 12,117 \end{array}$ |
| Sheboygan Co. | $\begin{array}{r} 238,132 \\ 12,909 \end{array}$ | $\underset{9,537}{199,350}$ | $\begin{array}{r} 225,384 \\ 11,503 \end{array}$ | $\begin{array}{r} 205,563 \\ 9,122 \end{array}$ | $\begin{array}{r} 214,111 \\ 10,191 \end{array}$ | $\begin{array}{r} 216,378 \\ 11,974 \end{array}$ | $\begin{array}{r} 210,632 \\ 11,803 \end{array}$ | $\underset{9,027}{179,246}$ | $\begin{array}{r} 9,813 \end{array}$ | $\begin{array}{r} 176,289 \\ 16,500 \end{array}$ | $\begin{array}{r} 202,903 \\ 11,444 \end{array}$ |
| Manitowoc Co. | $\begin{array}{r} 206,362 \\ 9,591 \end{array}$ | $\underset{8,336}{179,525}$ | $\begin{array}{r} 212,739 \\ 10,796 \end{array}$ | $\underset{8,230}{177,336}$ | $\begin{array}{r} 187,654 \\ 9,404 \end{array}$ | $\underset{8,303}{168,961}$ | $\begin{array}{r} 183,440 \\ 10,233 \end{array}$ | $\begin{array}{r} 139,241 \\ 7,010 \end{array}$ | $\begin{array}{r} 141,366 \\ 8,009 \end{array}$ | $\begin{array}{r} 132,408 \\ 6,735 \end{array}$ | $\underset{8,755}{172,903}$ |
| Kewaunee Co. | $\begin{array}{r} 382,614 \\ 22,200 \end{array}$ | $\begin{array}{r} 323,860 \\ 12,740 \end{array}$ | $\begin{array}{r} 311,407 \\ 7,780 \end{array}$ | $\begin{array}{r} 372,305 \\ 14,837 \end{array}$ | $\begin{array}{r} 352,498 \\ 15,032 \end{array}$ | $\begin{array}{r} 367,149 \\ 15,581 \end{array}$ | $\begin{array}{r} 288,935 \\ 13,131 \end{array}$ | $\begin{array}{r} 318,589 \\ 13,337 \end{array}$ | $\begin{array}{r} 327,150 \\ 13,794 \end{array}$ | $\underset{9,598}{222,088}$ | $\begin{array}{r} 326,660 \\ 14,273 \end{array}$ |
| E. Door Co. | $\begin{array}{r} 213,147 \\ 14,552 \end{array}$ | $\begin{array}{r} 151,136 \\ 7,001 \end{array}$ | $\begin{array}{r} 204,549 \\ 23,159 \end{array}$ | $\begin{array}{r} 195,887 \\ 12,008 \end{array}$ | $\begin{array}{r} 172,324 \\ 8,761 \end{array}$ | $\begin{array}{r} 218,354 \\ 19,796 \end{array}$ | $\begin{array}{r} 204,769 \\ 10,839 \end{array}$ | $\begin{array}{r} 193,014 \\ 9,108 \end{array}$ | $\begin{array}{r} 187,941 \\ 10,802 \end{array}$ | $\begin{array}{r} 181,342 \\ 12,741 \end{array}$ | $\begin{array}{r} 192,246 \\ 13,745 \end{array}$ |
| Green Bay | $\begin{array}{r} 936,050 \\ 42,151 \end{array}$ | $\begin{array}{r} 886,143 \\ 40,835 \end{array}$ | $\begin{array}{r} 771,724 \\ 26,553 \end{array}$ | $\begin{array}{r} 1,084,541 \\ 45,814 \end{array}$ | $\begin{array}{r} 990,101 \\ 46,164 \end{array}$ | $\begin{array}{r} 1,127,400 \\ 36,334 \end{array}$ | $\begin{array}{r} 1,016,928 \\ 35,232 \end{array}$ | $\begin{array}{r} 1,087,056 \\ 40,209 \end{array}$ | $\begin{array}{r} 1,032,530 \\ 34,218 \end{array}$ | $\begin{array}{r} 1,115,720 \\ 38,818 \end{array}$ | $\begin{array}{r} 1,004,819 \\ 39,032 \end{array}$ |
| Total Effort | $\begin{array}{r} 2,841,338 \\ 56,591 \end{array}$ | $\begin{array}{r} \hline 2,540,985 \\ 52,261 \end{array}$ | $\begin{array}{r} 2,525,586 \\ 45,010 \end{array}$ | $\begin{array}{r} 2,779,977 \\ 54,178 \end{array}$ | $\begin{array}{r} 2,613,170 \\ 53,991 \end{array}$ | $\begin{array}{r} \hline 2,742,595 \\ 49,548 \end{array}$ | $\begin{array}{r} 2,631,149 \\ 47,145 \end{array}$ | $\begin{array}{r} \hline 2,549,887 \\ 49,597 \end{array}$ | $\begin{array}{r} \hline 2,456,877 \\ 45,624 \end{array}$ | $\begin{array}{r} 48,065 \\ \hline 2,362,083 \end{array}$ | $\begin{array}{r} \hline 2,604,365 \\ 50,338 \end{array}$ |

Table 2. Estimated harvest and total harvest-rate (number per hour, all anglers combined) of salmonids in Wisconsin waters of Lake Michigan and Green Bay during March through December of 2010 through 2019. Standard deviations are in Italics.

| Species | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Coho Salmon | 42,445 | 157,367 | 73,395 | 88,933 | 52,297 | 41,067 | 125,748 | 119,788 | 85,459 | 32,197 | 81,870 |
|  | 2,039 | 11,432 | 3,114 | 3,922 | 6,577 | 4,339 | 5,572 | 7,135 | 5,176 | 2,003 | 5,786 |
| Chinook Salmon | 315,294 | 169,752 | 390,385 | 144,807 | 130,231 | 114,528 | 138,110 | 84,163 | 84,228 | 63,043 | 163,454 |
|  | 8,164 | 4,083 | 9,058 | 4,330 | 3,562 | 3,549 | 4,725 | 3,132 | 3,262 | 4,012 | 16,379 |
| Rainbow Trout | 49,121 | 75,442 | 75,981 | 58,429 | 72,724 | 59,127 | 77,004 | 66,599 | 57,141 | 50,258 | 64,183 |
|  | 2,023 | 2,588 | 2,592 | 1,978 | 2,259 | 1,714 | 2,962 | 2,661 | 2,011 | 3,105 | 2,429 |
| Brown Trout | 13,029 | 9,936 | 21,337 | 17,052 | 23,511 | 20,335 | 23,885 | 20,404 | 12,625 | 8,013 | 17,013 |
|  | 1,114 | 846 | 1,768 | 1,273 | 1,813 | 1,894 | 2,632 | 1,715 | 1,116 | 969 | 1,601 |
| Brook Trout | 0 | 26 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
|  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lake Trout | 17,483 | 17,788 | 29,094 | 27,246 | 25,424 | 35,778 | 19,046 | 20,345 | 26,747 | 34,197 | 25,315 |
|  | 775 | 1,236 | 1,261 | 1,003 | 1,098 | 1,482 | 865 | 1,115 | 1,236 | 2,438 | 1,326 |
| Total Harvest | 437,372 | 430,311 | 590,210 | 336,467 | 304,187 | 270,835 | 383,793 | 311,299 | 266,200 | 187,708 | 351,111 |
|  | 8,760 | 12,502 | 10,158 | 6,406 | 8,104 | 6,285 | 8,356 | 8,484 | 6,652 | 6,052 | 26,554 |
| Harvest-Rate | 0.1539 | 0.1693 | 0.2337 | 0.1210 | 0.1164 | 0.0988 | 0.1459 | 0.1221 | 0.1083 | 0.0795 | 0.1348 |

Table 3. Estimated harvest and total harvest-rate (number per hour, all anglers combined) of yellow perch in Wisconsin waters of Lake Michigan and Green Bay during March through December of 2009 through 2018. Standard deviations (estimates) are in Italics.

| Location | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Green Bay | $\begin{array}{r} 225,995 \\ 21,042 \end{array}$ | $\begin{array}{r} 254,942 \\ 24,973 \end{array}$ | $\begin{array}{r} 148,980 \\ 13,685 \end{array}$ | $\begin{array}{r} 221,158 \\ 18,974 \end{array}$ | $\begin{array}{r} 117,012 \\ 12.283 \end{array}$ | $\begin{array}{r} 98,263 \\ 10,029 \end{array}$ | $\begin{array}{r} 76,281 \\ 9,289 \end{array}$ | $\begin{array}{r} 117,412 \\ 12,404 \end{array}$ | $\begin{array}{r} 115,896 \\ 11,044 \end{array}$ | $\begin{array}{r} 84,200 \\ 15,389 \end{array}$ | $\begin{array}{r} 155,100 \\ 16,065 \end{array}$ |
| Harvest-Rate | 0.2414 | 0.2877 | 0.1930 | 0.2039 | 0.1182 | 0.0872 | 0.0750 | 0.1080 | 0.1122 | 0.0755 | 0.1502 |
| Lake Michigan | $\begin{array}{r} 51,265 \\ 4,787 \end{array}$ | $\begin{array}{r} 16,982 \\ 2,296 \end{array}$ | $\begin{array}{r} 9,115 \\ 1,071 \end{array}$ | $\underset{1,221}{8,796}$ | $\begin{array}{r} 9,277 \\ 1,108 \end{array}$ | $\begin{array}{r} 5,257 \\ 1,000 \end{array}$ | $\begin{array}{r} 2,089 \\ 586 \end{array}$ | $\begin{array}{r} 2,481 \\ 537 \end{array}$ | $\begin{array}{r} 4,026 \\ 787 \end{array}$ | $\begin{array}{r} 3,600 \\ 882 \end{array}$ | $\begin{array}{r} 15,357 \\ 1,873 \end{array}$ |
| Harvest-Rate | 0.0269 | 0.0103 | 0.0052 | 0.0052 | 0.0057 | 0.0033 | 0.0013 | 0.0017 | 0.0028 | 0.0029 | 0.0058 |
| Total Harvest | $\begin{array}{r} 277,260 \\ 21,579 \end{array}$ | $\begin{array}{r} 271,924 \\ 25,078 \end{array}$ | $\begin{array}{r} 158,095 \\ 13,727 \end{array}$ | $\begin{array}{r} 229,954 \\ 19,013 \end{array}$ | $\begin{array}{r} 126,289 \\ 12,333 \end{array}$ | $\begin{array}{r} 103,520 \\ 10,079 \end{array}$ | $\begin{array}{r} 78,370 \\ 9,307 \end{array}$ | $\begin{array}{r} 119,893 \\ 12,416 \end{array}$ | $\begin{array}{r} 119,922 \\ 11,072 \end{array}$ | $\begin{array}{r} 87,800 \\ 15,414 \end{array}$ | $166,180$ |
| Harvest-Rate | 0.0976 | 0.1070 | 0.0626 | 0.0827 | 0.0483 | 0.0377 | 0.0298 | 0.0470 | 0.0488 | 0.0372 | 0.0638 |

Note: Table 3 reflects that some Door County sites represent Green Bay for yellow perch harvest statistics.

Table 4. Estimated harvest-rate (harvest per hour), harvest and effort for all survey areas and ALL FISHERY TYPES for

| Species | Harvest per hour | March/April | May | June | July | August | Sept/Oct | Nov/Dec | Season |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Coho Salmon | 0.0136 | $\begin{array}{r} 545 \\ 353 \end{array}$ | $\begin{array}{r} 3,238 \\ 436 \end{array}$ | $\underset{1,065}{11,998}$ | $\begin{array}{r} 687 \\ \hline 655 \end{array}$ | $\begin{array}{r} 3,611 \\ 373 \end{array}$ | $\begin{array}{r} 3,850 \\ 1,397 \end{array}$ | 0 | $\begin{array}{r} 32,197 \\ \hline 2,003 \end{array}$ |
| Chinook Salmon | 0.0267 | $\begin{array}{r} 49 \\ 31 \end{array}$ | $\begin{array}{r} 302 \\ 71 \end{array}$ | $\begin{array}{r} 9,060 \\ 705 \end{array}$ | $\begin{array}{r} 20,426 \\ 1,458 \end{array}$ | $\begin{aligned} & 18,064 \\ & 1,250 \end{aligned}$ | $\begin{array}{r} 15,142 \\ 3,450 \end{array}$ | 0 | $\begin{array}{r} 63,043 \\ 4,012 \end{array}$ |
| Rainbow Trout | 0.0213 | $\begin{array}{r} 2,575 \\ 429 \end{array}$ | $\begin{array}{r} 1,009 \\ 187 \end{array}$ | $\begin{array}{r} 10,619 \\ 619 \end{array}$ | $\begin{array}{r} 18,932 \\ 1,419 \end{array}$ | $\begin{array}{r} 13,734 \\ 820 \end{array}$ | $\begin{array}{r} 3,389 \\ 2,520 \end{array}$ | 0 | $\begin{array}{r} 50,258 \\ 3,105 \end{array}$ |
| Brown Trout | 0.0034 | $\begin{array}{r} 3,025 \\ 525 \end{array}$ | $\begin{array}{r} 705 \\ 222 \end{array}$ | $\begin{array}{r} 65 \\ 20 \end{array}$ | $\begin{array}{r} 629 \\ 156 \end{array}$ | $\begin{array}{r} 707 \\ 150 \end{array}$ | $\begin{array}{r} 2,854 \\ 752 \end{array}$ | 28 31 | $\begin{array}{r} 8,013 \\ 969 \end{array}$ |
| Brook Trout | 0.0000 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 |
| Lake Trout | 0.0145 | $\begin{array}{r} 166 \\ 61 \end{array}$ | $\begin{array}{r} 3,467 \\ 267 \end{array}$ | $\underset{641}{8,298}$ | $\begin{array}{r} 10,676 \\ 970 \end{array}$ | $\begin{array}{r} 651 \\ \hline \end{array}$ | $\begin{array}{r} 4,962 \\ 2,096 \end{array}$ | 0 | $\begin{array}{r} 34,197 \\ 2,438 \end{array}$ |
| Splake | 0.0000 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 |
| Northern Pike | 0.0018 | $\begin{array}{r} 1,402 \\ 464 \end{array}$ | $\begin{array}{r} 445 \end{array}$ | $\begin{gathered} 19 \\ 14 \end{gathered}$ | $\begin{array}{r} 326 \\ 229 \end{array}$ | $354$ | $\begin{array}{r} 539 \\ 189 \end{array}$ | 0 | $\begin{array}{r} 4,138 \\ 722 \end{array}$ |
| White Perch | 0.0001 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $314$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 314 315 |
| Smallmouth Bass | 0.0024 | $\begin{array}{r} 192 \\ 234 \end{array}$ | $\begin{array}{r} 1,712 \\ 648 \end{array}$ | $\begin{array}{r} 679 \\ 267 \end{array}$ | $\begin{array}{r} 185 \\ 100 \end{array}$ | $\begin{array}{r} 1,492 \\ 459 \end{array}$ | $\begin{array}{r} 1,363 \\ 675 \end{array}$ | 0 | $\begin{array}{r} 5,623 \\ 1,107 \end{array}$ |
| Yellow Perch | 0.0372 | $\begin{array}{r} 232 \\ 118 \end{array}$ | $\begin{array}{r} 179 \\ 178 \end{array}$ | $\begin{array}{r} 7,154 \\ 1,912 \end{array}$ | $53,566$ | $\begin{array}{r} 19,121 \\ 3,901 \end{array}$ | $\begin{array}{r} 5,756 \\ 1,924 \end{array}$ | $1,792$ | $\begin{array}{r} 87,800 \\ 15,602 \end{array}$ |
| Walleye | 0.0390 | $\begin{array}{r} 16,683 \\ 2,564 \end{array}$ | $\begin{array}{r} 18,789 \\ 4,265 \end{array}$ | $\begin{array}{r} 4,826 \\ 1,173 \end{array}$ | $\begin{array}{r} 26,241 \\ 5,667 \end{array}$ | $\begin{array}{r} 19,101 \\ 2,968 \end{array}$ | $\begin{array}{r} 6,168 \\ 1,131 \end{array}$ | $\begin{array}{r} 428 \\ 27 \end{array}$ | $\underset{8,267}{92,236}$ |
| Total Harvest | 0.1600 | $\begin{array}{r} 24,869 \\ 2,729 \end{array}$ | $\begin{array}{r} 30,899 \\ 4,381 \end{array}$ | $\begin{array}{r} 52,718 \\ 2,744 \end{array}$ | $\begin{array}{r} 139,936 \\ 16,080 \end{array}$ | $\begin{array}{r} 83,126 \\ 5,184 \end{array}$ | $\begin{array}{r} 44,023 \\ 5,535 \end{array}$ | $\begin{array}{r} 4,248 \\ \hline 41 \end{array}$ | $\begin{array}{r} 377,819 \\ 18,715 \end{array}$ |
| Angler Hours |  | $\begin{array}{r} 334,172 \\ 21,321 \end{array}$ | $\begin{array}{r} 288,683 \\ 21,568 \end{array}$ | $\begin{array}{r} 367,796 \\ 14,618 \end{array}$ | $\begin{array}{r} 588,580 \\ 23,467 \end{array}$ | $\begin{array}{r} 449,448 \\ 17,594 \end{array}$ | $\begin{array}{r} 330,121 \\ 17,787 \end{array}$ | $\begin{array}{r} 3,283 \\ 510 \end{array}$ | $\begin{array}{r} 48,065 \\ 2,362,083 \end{array}$ |

Table 5. Estimated harvest-rate (harvest per hour), harvest and effort for the BOAT FISHERY with all surveys combined for Wisconsin waters of Lake Michigan and Green Bay during 2019. Standard deviations are in italics.

| Species | Harvest per hour | March/April | May | June | July | August | Sept/Oct | Nov/Dec | Season |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Coho Salmon | 0.0161 | $\begin{array}{r} 518 \\ 353 \end{array}$ | $\begin{array}{r} 3,225 \\ 436 \end{array}$ | $\begin{array}{r} 11,998 \\ 1,065 \end{array}$ | $\begin{array}{r} 8,955 \\ 687 \end{array}$ | $\begin{array}{r} 3,611 \\ 373 \end{array}$ | $\begin{array}{r} 3,582 \\ 1,395 \end{array}$ | 0 | $\begin{array}{r} \hline 31,889 \\ 2,001 \end{array}$ |
| Chinook Salmon | 0.0287 | $\begin{array}{r} 49 \\ 31 \end{array}$ | $\begin{array}{r} 294 \\ 71 \end{array}$ | $\begin{array}{r} 9,060 \\ 705 \end{array}$ | $\underset{1,458}{20,426}$ | $\underset{1,234}{17,627}$ | $\begin{array}{r} 11,160 \\ 3,404 \end{array}$ | 0 | $\begin{array}{r} 56,616 \\ 3,968 \end{array}$ |
| Rainbow Trout | 0.0241 | $\begin{array}{r} 80 \\ 65 \end{array}$ | $\begin{array}{r} 913 \\ 184 \end{array}$ | $\begin{array}{r} 10,576 \\ 617 \end{array}$ | $\begin{array}{r} 18,926 \\ 1,419 \end{array}$ | $\begin{array}{r} 13,734 \\ 820 \end{array}$ | $\begin{array}{r} 3,295 \\ 2,520 \end{array}$ | 0 | $\begin{array}{r} 47,524 \\ 3,075 \end{array}$ |
| Brown Trout | 0.0025 | $\begin{array}{r} 1,959 \\ 443 \end{array}$ | $\begin{array}{r} 585 \\ 216 \end{array}$ | $\begin{array}{r} 61 \\ 19 \end{array}$ | $\underset{153}{602}$ | $\begin{array}{r} 601 \\ 139 \end{array}$ | $\begin{array}{r} 1,095 \\ 463 \end{array}$ | 0 | $\begin{array}{r} 4,903 \\ 707 \end{array}$ |
| Brook Trout | 0.0000 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 0 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 0 | 0 |
| Lake Trout | 0.0173 | $166$ | $\begin{array}{r} 3,467 \\ 267 \end{array}$ | $\begin{array}{r} 8,298 \\ 641 \end{array}$ | $\begin{array}{r} 10,670 \\ 970 \end{array}$ | $\begin{array}{r} 6,628 \\ 351 \end{array}$ | $\begin{array}{r} 4,962 \\ 2,096 \end{array}$ | 0 | $\begin{array}{r} 34,191 \\ 2,438 \end{array}$ |
| Splake | 0.0000 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 0 | 0 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 0 | 0 |
| Northern Pike | 0.0014 | $\begin{array}{r} 674 \\ 322 \end{array}$ | $\begin{array}{r} 1,041 \\ 399 \end{array}$ | $\begin{gathered} 19 \\ 14 \end{gathered}$ | $\begin{array}{r} 326 \\ 229 \end{array}$ | $\begin{array}{r} 276 \\ 128 \end{array}$ | $\begin{array}{r} 472 \\ 186 \end{array}$ | 0 | $\begin{array}{r} 2,808 \\ 605 \end{array}$ |
| White Perch | 0.0002 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 314 \\ 315 \end{array}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{array}{r} 314 \\ 315 \end{array}$ |
| Smallmouth Bass | 0.0024 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{array}{r} 1,647 \\ 648 \end{array}$ | $617$ | $\begin{gathered} 95 \\ 83 \end{gathered}$ | $\begin{array}{r} 1,013 \\ 429 \end{array}$ | $\begin{array}{r} 1,334 \\ 674 \end{array}$ | 0 | $\begin{array}{r} 4,706 \\ 1,065 \end{array}$ |
| Yellow Perch | 0.0406 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 179 \\ 178 \end{array}$ | $\begin{array}{r} 5,073 \\ 1,724 \end{array}$ | $\begin{array}{r} 51,667 \\ 14,840 \end{array}$ | $\begin{array}{r} 18,692 \\ 3,841 \end{array}$ | $\begin{array}{r} 4,607 \\ 1,854 \end{array}$ | 0 | $\begin{array}{r} 80,218 \\ 15,552 \end{array}$ |
| Walleye | 0.0421 | $\begin{array}{r} 7,878 \\ 1,250 \end{array}$ | $\begin{array}{r} 18,440 \\ 4,243 \end{array}$ | $\begin{array}{r} 4,826 \\ 1,173 \end{array}$ | $\begin{array}{r} 26,241 \\ 5,667 \end{array}$ | $\begin{array}{r} 19,101 \\ 2,968 \end{array}$ | $\begin{array}{r} 6,168 \\ 1,131 \end{array}$ | 404 | $\begin{array}{r} 83,058 \\ 7,657 \end{array}$ |
| Total Harvest | 0.1753 | $\begin{array}{r} 11,324 \\ 1,413 \end{array}$ | $\begin{array}{r} 29,791 \\ \hline, 354 \end{array}$ | $\underset{2,615}{50,528}$ | $\begin{array}{r} 137,908 \\ 16,062 \end{array}$ | $\begin{array}{r} 81,597 \\ 5,132 \end{array}$ | $\begin{array}{r} 36,675 \\ 5,449 \end{array}$ | $\begin{array}{r} 404 \\ 0 \end{array}$ | $\begin{array}{r} 346,227 \\ \hline 18,378 \end{array}$ |
| Angler Hours |  | $\begin{array}{r} 194,957 \\ 18,609 \end{array}$ | $\begin{array}{r} 267,385 \\ 21,499 \end{array}$ | $\begin{array}{r} 339,312 \\ 14,457 \end{array}$ | $\begin{array}{r} 554,481 \\ 23,338 \end{array}$ | $\begin{array}{r} 409,727 \\ 17,365 \end{array}$ | $\begin{array}{r} 207,717 \\ 16,461 \end{array}$ | $983$ | $\begin{array}{r} 1,974,562 \\ 46,131 \end{array}$ |

Table 6. Estimated harvest-rate (harvest per hour), harvest and effort for the PIER FISHERY with all survey areas combined for Wisconsin waters of Lake Michigan and Green Bay during 2019. Standard deviations are in italics.

| Species | Harvest per hour | March/April | May | June | July | August | Sept/Oct | Nov/Dec | Season |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Coho Salmon | 0.0006 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} 5 \\ 5 \end{gathered}$ | 0 0 | 0 | 0 | 49 42 | 0 | 54 42 |
| Chinook Salmon | 0.0046 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 83 54 | $\begin{array}{r} 359 \\ 129 \end{array}$ | 0 | $\begin{array}{r} 442 \\ 140 \end{array}$ |
| Rainbow Trout | 0.0005 | $\begin{aligned} & 9 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 6 6 | 0 | 34 25 | 0 | 49 27 |
| Brown Trout | 0.0015 | $\begin{gathered} 65 \\ 35 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{array}{r} 27 \\ 29 \end{array}$ | 17 16 | 35 22 | 0 | $\begin{array}{r} 144 \\ 53 \end{array}$ |
| Brook Trout | 0.0000 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 0 | 0 | 0 | 0 | 0 | 0 |
| Lake Trout | 0.0001 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 6 6 | 0 | 0 | 0 | 6 6 |
| Splake | 0.0000 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 | 0 |
| Northern Pike | 0.0007 | $\begin{array}{r} 40 \\ 40 \end{array}$ | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 0 | 0 | 31 21 | 0 | 71 45 |
| White Perch | 0.0000 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 | 0 | 0 |
| Smallmouth Bass | 0.0038 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $65$ | $\begin{gathered} 62 \\ 48 \end{gathered}$ | 0 | $\begin{array}{r} 211 \\ 121 \end{array}$ | 29 29 | 0 | $\begin{array}{r} 367 \\ 146 \end{array}$ |
| Yellow Perch | 0.0165 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{array}{r} 440 \\ 191 \end{array}$ | $\begin{array}{r} 1,073 \\ 712 \end{array}$ | 20 20 | 59 45 | 0 | $\begin{array}{r} 1,592 \\ \hline \end{array}$ |
| Walleye | 0.0030 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 284 \\ 152 \end{array}$ | 0 | 0 | 0 | 0 | 0 | $\begin{array}{r} 284 \\ 152 \end{array}$ |
| Total Harvest | 0.0313 | $\begin{array}{r} 114 \\ 53 \end{array}$ | $\begin{array}{r} 354 \\ 163 \end{array}$ | $502$ | $\begin{array}{r} 1,112 \\ 713 \end{array}$ | $\begin{array}{r} 331 \\ \hline 135 \end{array}$ | $\begin{array}{r} 596 \\ 151 \end{array}$ | 0 | $\begin{array}{r} 785 \\ \hline 3009 \end{array}$ |
| Angler Hours |  | $\begin{array}{r} 7,334 \\ 1,322 \end{array}$ | $\begin{array}{r} 7,000 \\ 1,107 \end{array}$ | $\begin{array}{r} 11,024 \\ 1,215 \end{array}$ | $\begin{array}{r} 18,040 \\ 1,986 \end{array}$ | $\begin{array}{r} 23,324 \\ 2,322 \end{array}$ | $\begin{array}{r} 29,380 \\ 4,594 \end{array}$ | $\begin{array}{r} 115 \\ 115 \end{array}$ | $\begin{array}{r} 96,217 \\ 5,908 \end{array}$ |

Table 7. Estimated harvest-rate (harvest per hour), harvest and effort for the SHORE FISHERY with all survey areas combined for Wisconsin waters of Lake Michigan and Green Bay during 2019. Standard deviations are in italics.

| Species | Harvest per hour | March/April | May | June | July | August | Sept/Oct | Nov/Dec | Season |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Coho Salmon | 0.0014 | $27$ | $\begin{aligned} & \hline 8 \\ & 8 \end{aligned}$ | 0 | $\begin{aligned} & \hline 0 \\ & 0 \end{aligned}$ | 0 | 96 50 | 0 | $\begin{array}{r} 131 \\ 54 \end{array}$ |
| Chinook Salmon | 0.0157 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{aligned} & 8 \\ & 8 \end{aligned}$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 354 \\ 190 \end{array}$ | $\begin{array}{r} 1,084 \\ 283 \end{array}$ | 0 | $\begin{array}{r} 1,446 \\ \hline \end{array}$ |
| Rainbow Trout | 0.0011 | $\begin{array}{r} 29 \\ 20 \end{array}$ | $\begin{gathered} 11 \\ 11 \end{gathered}$ | $\begin{array}{r} 43 \\ 37 \end{array}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 23 17 | 0 | $\begin{array}{r} 106 \\ 47 \end{array}$ |
| Brown Trout | 0.0137 | $\begin{array}{r} 899 \\ 271 \end{array}$ | $\begin{array}{r} 120 \\ 53 \end{array}$ | 4 4 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{array}{r} 89 \\ 53 \end{array}$ | $\begin{array}{r} 151 \\ 67 \end{array}$ | 0 | $\begin{array}{r} 1,263 \\ \hline \end{array}$ |
| Brook Trout | 0.0000 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 |
| Lake Trout | 0.0000 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $0$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 |
| Splake | 0.0000 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 |
| Northern Pike | 0.0102 | $\begin{array}{r} 427 \\ 219 \end{array}$ | $\begin{array}{r} 457 \\ 196 \end{array}$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} 18 \\ 16 \end{gathered}$ | 36 22 | 0 | $\begin{array}{r} 938 \\ 295 \end{array}$ |
| White Perch | 0.0000 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 |
| Smallmouth Bass | 0.0039 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{gathered} 90 \\ 56 \end{gathered}$ | $268$ | 0 | 0 | $\begin{array}{r} 358 \\ 124 \end{array}$ |
| Yellow Perch | 0.0649 | $\begin{array}{r} 232 \\ 118 \end{array}$ | 0 | $\begin{array}{r} 1,641 \\ 805 \end{array}$ | $\begin{array}{r} 826 \\ 278 \end{array}$ | $\begin{array}{r} 409 \\ 189 \end{array}$ | $\begin{array}{r} 1,090 \\ 512 \end{array}$ | 1,792 | $\begin{array}{r} 5,990 \\ 1,018 \end{array}$ |
| Walleye | 0.0000 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 0 | 0 | 0 | 0 | 0 | 0 |
| Total Harvest | 0.1108 | $\begin{array}{r} 1,614 \\ 369 \end{array}$ | $\begin{array}{r} 604 \\ 204 \end{array}$ | $\begin{array}{r} 1,688 \\ \hline 806 \end{array}$ | $\begin{array}{r} 916 \\ 284 \end{array}$ | $\begin{array}{r} 1,138 \\ 295 \end{array}$ | $\begin{array}{r} 2,480 \\ \hline 592 \end{array}$ | $1,792$ | $\underset{1,159}{10,232}$ |
| Angler Hours |  | $\begin{array}{r} 17,485 \\ 1,919 \end{array}$ | $\begin{array}{r} 6266 \end{array}$ | $\begin{array}{r} 7,782 \\ 1,356 \end{array}$ | $\underset{1,267}{12,212}$ | $\begin{array}{r} 11,091 \\ 1,371 \end{array}$ | $\begin{array}{r} 36,147 \\ 2,747 \end{array}$ | $\begin{array}{r} 1,380 \\ 460 \end{array}$ | $\begin{array}{r} 92,329 \\ 4,177 \end{array}$ |

Table 8. Estimated harvest-rate (harvest per hour), harvest, and effort for the STREAM FISHERY with all survey areas combined for Wisconsin waters of Lake Michigan and Green Bay during 2019. Standard deviations are in italics.

| Species | Harvest per hour | March/April | May | June | July | August | Sept/Oct | Nov/Dec | Season |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Coho Salmon | 0.0006 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 0 | 0 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 0 | $\begin{array}{r} 123 \\ 55 \end{array}$ | 0 | 123 55 |
| Chinook Salmon | 0.0128 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 0 | $\begin{array}{r} 2,539 \\ 463 \end{array}$ | 0 | $\begin{array}{r} 2,539 \\ 463 \end{array}$ |
| Rainbow Trout | 0.0130 | $\begin{array}{r} 2,457 \\ 423 \end{array}$ | $85$ | $\begin{gathered} 0 \\ 0 \end{gathered}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | $\begin{array}{r} 37 \\ 22 \end{array}$ | 0 | $\begin{array}{r} 2,579 \\ 425 \end{array}$ |
| Brown Trout | 0.0086 | $\begin{array}{r} 102 \\ 72 \end{array}$ | 0 0 | 0 0 | $0$ | 0 0 | $\begin{array}{r} 1,573 \\ 588 \end{array}$ | $\underset{31}{28}$ | $\begin{array}{r} 1,703 \\ 594 \end{array}$ |
| Brook Trout | 0.0000 | $0$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 |
| Lake Trout | 0.0000 | $0$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 |
| Splake | 0.0000 | $\begin{gathered} 0 \\ 0 \end{gathered}$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 |
| Northern Pike | 0.0016 | $\begin{array}{r} 261 \\ 249 \end{array}$ | 0 | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} 60 \\ 60 \end{gathered}$ | 0 | 0 | $\begin{array}{r} 321 \\ 256 \end{array}$ |
| White Perch | 0.0000 | $0$ | 0 | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 |
| Smallmouth Bass | 0.0010 | $\begin{array}{r} 192 \\ 234 \end{array}$ | 0 | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | $\begin{array}{r} 192 \\ 234 \end{array}$ |
| Yellow Perch | 0.0000 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 0 | 0 |
| Walleye | 0.0447 | $\begin{array}{r} 8,805 \\ 2,239 \end{array}$ | $65$ | 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 0 | 0 | 24 27 | $\begin{array}{r} 8,894 \\ 2,239 \end{array}$ |
| Total Harvest | 0.0822 | $\begin{array}{r} 11,817 \\ 2,305 \end{array}$ | $\begin{array}{r} 150 \\ 55 \end{array}$ | 0 0 | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | 60 60 | $\begin{array}{r} 4,272 \\ \hline \end{array}$ | 52 | $\begin{array}{r} 16,351 \\ 2,426 \end{array}$ |
| Angler Hours |  | $\begin{array}{r} 114,396 \\ 10,143 \end{array}$ | $\underset{1,013}{8,066}$ | $\begin{gathered} 9,678 \\ 1,163 \end{gathered}$ | $\begin{array}{r} 3,847 \\ 679 \end{array}$ | $\begin{array}{r} 5,306 \\ \hline \end{array}$ | $\begin{array}{r} 56,877 \\ 4,095 \end{array}$ | $\begin{array}{r} 805 \\ 147 \end{array}$ | $\begin{array}{r} 198,975 \\ 11,100 \end{array}$ |

Table 9. Average weight, average length and standard weight of salmonids from Wisconsin's Lake Michigan creel survey during 2010 through 2019, all areas and fishery types combined. std = standard deviation.

| Year | Average weight (lbs.) | $\pm 1$ std | Average length (in.) | $\pm 1$ std | Standard weight (lbs.) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Coho salmon |  |  |  |  |  |
| 2010 | 4.5751 | 2.2101 | 22.8805 | 3.7821 | 3.9833 |
| 2011 | 4.2329 | 1.8161 | 22.1766 | 2.6627 | 3.9868 |
| 2012 | 3.4466 | 1.4930 | 20.6385 | 2.8135 | 3.8802 |
| 2013 | 5.3848 | 2.6743 | 23.6931 | 3.4848 | 4.0654 |
| 2014 | 3.9803 | 1.9275 | 21.2898 | 3.0179 | 3.9316 |
| 2015 | 4.0000 | 1.8299 | 21.4375 | 3.3676 | 3.8470 |
| 2016 | 4.7300 | 1.9033 | 23.3117 | 2.6028 | 3.9260 |
| 2017 | 4.0892 | 2.1177 | 22.4113 | 2.6747 | 3.6520 |
| 2018 | 4.7184 | 2.5656 | 22.0095 | 3.8256 | 4.2930 |
| 2019 | 6.5305 | 2.8447 | 23.3983 | 3.3888 | 4.4539 |
| Chinook salmon |  |  |  |  |  |
| 2010 | 8.7700 | 4.3646 | 28.0374 | 5.5873 | 8.5914 |
| 2011 | 10.1487 | 5.8206 | 28.0507 | 6.0373 | 10.2631 |
| 2012 | 10.2651 | 4.0305 | 30.0844 | 4.6550 | 8.8881 |
| 2013 | 10.4966 | 7.0121 | 28.1742 | 6.7792 | 10.2408 |
| 2014 | 11.3915 | 5.0015 | 30.0012 | 4.8944 | 10.2321 |
| 2015 | 10.4108 | 4.5165 | 29.7477 | 5.4302 | 9.1940 |
| 2016 | 10.3154 | 6.0139 | 28.1910 | 5.9369 | 10.3142 |
| 2017 | 11.8211 | 6.0754 | 29.6128 | 5.8775 | 10.4097 |
| 2018 | 13.1493 | 7.0864 | 30.6361 | 6.6760 | 10.0109 |
| 2019 | 13.0167 | 8.0081 | 29.9058 | 6.2441 | 10.9404 |
| Rainbow trout |  |  |  |  |  |
| 2010 | 6.2216 | 2.5984 | 25.6125 | 3.9888 | 4.3301 |
| 2011 | 6.1851 | 2.6215 | 24.8381 | 3.8826 | 4.2453 |
| 2012 | 6.3634 | 2.4765 | 26.1214 | 3.7593 | 4.2812 |
| 2013 | 6.4838 | 2.6676 | 25.5596 | 3.7736 | 4.0376 |
| 2014 | 6.7767 | 2.8838 | 25.9776 | 3.8120 | 4.1739 |
| 2015 | 5.7588 | 2.4129 | 25.2419 | 4.4224 | 3.9037 |
| 2016 | 5.8938 | 2.5324 | 24.7988 | 3.8542 | 4.2855 |
| 2017 | 6.5706 | 2.7022 | 25.8441 | 4.0113 | 4.0464 |
| 2018 | 6.4566 | 2.9929 | 25.6198 | 4.1660 | 3.7403 |
| 2019 | 7.8170 | 4.6551 | 25.1044 | 4.2576 | 4.3547 |
| Brown trout |  |  |  |  |  |
| 2010 | 7.7499 | 4.3883 | 24.2774 | 5.0338 | 3.8949 |
| 2011 | 4.9160 | 4.0068 | 19.7757 | 5.5077 | 4.1725 |
| 2012 | 4.7658 | 2.7347 | 20.7304 | 3.7789 | 4.0676 |
| 2013 | 5.8537 | 3.0350 | 22.0303 | 3.6793 | 3.9190 |
| 2014 | 5.8459 | 3.3608 | 21.2050 | 4.6428 | 4.2392 |
| 2015 | 5.1532 | 3.1955 | 20.9572 | 4.3664 | 3.8568 |
| 2016 | 5.3826 | 4.0422 | 20.7914 | 5.2190 | 3.9606 |
| 2017 | 5.7685 | 3.2424 | 21.9807 | 3.9553 | 3.9659 |
| 2018 | 6.1024 | 3.8362 | 22.9790 | 4.4280 | 3.4505 |
| 2019 | 10.7946 | 5.2367 | 25.5988 | 3.9499 | 5.4836 |
| Lake trout |  |  |  |  |  |
| 2010 | 5.9275 | 3.2344 | 24.2994 | 3.9970 | 5.9239 |
| 2011 | 6.1933 | 3.1017 | 25.0834 | 3.6291 | 5.6477 |
| 2012 | 6.7815 | 3.6110 | 26.1740 | 4.1798 | 5.3274 |
| 2013 | 5.8791 | 2.7630 | 25.0904 | 3.1524 | 5.3559 |
| 2014 | 6.3332 | 3.4466 | 24.7813 | 4.0396 | 5.8595 |
| 2015 | 7.4777 | 3.7718 | 26.8174 | 4.1894 | 5.6124 |
| 2016 | 6.6598 | 3.4108 | 25.7354 | 3.8402 | 5.8303 |
| 2017 | 6.7796 | 3.3955 | 25.8882 | 3.9219 | 5.6707 |
| 2018 | 8.4836 | 4.4129 | 27.2497 | 4.0781 | 6.0765 |
| 2019 | 10.1448 | 5.9126 | 27.3294 | 4.4485 | 6.3484 |



Figure 1. Fishing effort (angler hours) in Wisconsin waters of Lake Michigan and Green Bay from 2010 through 2019.


Figure 2. Trout and salmon harvest and harvest-rate from Wisconsin waters of Lake Michigan and Green Bay from 2010 through 2019.


Figure 3. Yellow perch angler-harvest and harvest-rate from Wisconsin waters of Green Bay and Lake Michigan from 2010 through 2019. Note: Figure 3 reflects that some Door County sites represent Green Bay for yellow perch harvest statistics.

