

A Synthesis of Recreational Fishing Activity

In the St. Marys River

May through October 2022

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Introduction

The St. Marys River has a long history of recreational fishing for a variety of species (Godby et al. 2019). These include Walleye, Northern Pike, Muskellunge, Smallmouth Bass, Cisco, and Yellow Perch as well as migratory species such as Rainbow Trout, Chinook Salmon, Pink Salmon, and Atlantic Salmon (see Appendix 1 for a complete listing of all the common and scientific names of fishes mentioned in this report). The magnitude of this fishery is significant as well.

To document and quantify these fisheries, the Michigan Department of Natural Resources (MDNR) and Ontario Ministry of Natural Resources and Forestry (OMNRF), with assistance from the United States Fish and Wildlife Service (USFWS), undertook an open water creel survey of recreational anglers in 2022. Consistent with the last survey in 2017, the survey covered both Ontario and Michigan waters from the compensating works at the head of the St. Marys River rapids downstream to Lake Huron at DeTour Village. Additionally, the Upper River above the compensating works was surveyed on the Michigan side of the river in 2022. This is the third whole-river creel survey study of the St. Marys River; the first was conducted in 1999-2000 (Fielder et al. 2002) while the second was done in 2017 (Godby et al. 2019). Both the 2017 and 2022 creel surveys were accompanied by fish community index netting (FCIN) surveys of the river during the same year coordinated by the St. Marys River Fisheries Task Group (SMRFTG) and its member agencies (O'Connor et al. 2019 and O'Connor et al. 2024).

The purpose of this survey is to quantify angler harvest and effort in the St. Marys River and identify any trends in the river recreational fishery. This information will supplement other individual management agency data and the joint river-wide fish community gillnet survey to help inform management of the river's sport fish community.

The St. Marys River is the connecting channel between Lakes Superior and Huron (Figure 1). The river flows southeasterly from Lake Superior's Whitefish Bay for 112 km before emptying into northern Lake Huron at DeTour Village, Michigan, and into the North Channel of Lake Huron in Ontario at St. Joseph Island. The river includes the international boundary line between Ontario, Canada and Michigan, United States of America. Although the fish community has been described as percid dominated (Duffy and Batterson 1987, Ryder and Kerr 1978), the river supports a diverse mix of migratory and resident warm, cool, and cold water species (St. Marys River RAP Team 1992). Resident species of interest to anglers include Northern Pike, Smallmouth Bass, Walleye, and Yellow Perch. These species are well distributed throughout the river and its numerous bays. These four species, along with Cisco, will be highlighted throughout this report. Migratory salmonids provide popular fisheries and can be found seasonally in different parts of the river, including the river and main rapids near Sault Ste. Marie, the Little Rapids adjacent to Sugar Island, and some St. Marys River tributaries. Migratory salmonids are also routinely caught in the lower river near DeTour Village as some species migrate from northern Lake Huron to the Rapids area. The river provides diverse aquatic habitats throughout its length, often with abrupt changes from one habitat type to another. Habitats are generally characterized as open water, embayments, sand and gravel beaches or flats, rapids, and emergent wetlands (Duffy and Batterson 1987). The lower reaches of the river, including Potagannissing Bay, Raber Bay, and Lake Munuscong, are more lacustrine in form and at least seasonally contain feeding aggregations of Cisco or migrating Pacific salmon and Rainbow Trout resulting in short-term, seasonal fisheries. Considerable shoreline and channel alteration and hardening, dredging, flow control, and flow redirection have occurred over the past two centuries, done primarily to facilitate navigation. Both the distribution of habitat types and anthropogenic stresses can influence the species anglers target in the various river reaches and the intensity and seasonality of fishing effort.

Creel Methodology

The St. Marys River creel survey was performed during the open water season (May 1st - October 31st) in 2022. The creel survey was based on a stratified design using three-stage sampling within the strata: i) days; ii) shifts; and iii) count times, and followed the methods detailed by Lockwood et al. (1999) and Su and Clapp (2013). Strata included 'sites' (Figure 2) fished by month, by day-type (weekday-weekend/holiday), and by mode of fishing (e.g., boat, pier/dock, shore). Catch and effort estimates were made for each stratum and then combined to give monthly and seasonal figures. The estimation sites were:

- Site 404; the northernmost sampling location. The area includes the St. Marys River above the compensating works including Ashmun and Waishkey bays on the American side of the river. Note that this site was not included in the previous (2017) survey. This site was sampled only on the Michigan side of the river.
- Site 403; the area includes the St. Marys River rapids on the Canadian side of the river, and the areas immediately north of the Soo Locks in both Sault Ste. Marie, USA and Canada. This site was sampled only on the Ontario side of the river.
- Site 209; the river from the Soo Locks in Sault Ste. Marie moving south to include Lake Nicolet and the Middle Neebish Channel ending at Oak Point on Neebish Island and east to Harwood Point.
- Site 208; the river branch north of Sugar Island and all of Lake George, including Echo Bay and ending on a line north from Harwood Point to the Canadian mainland.
- Site 405; the river south of Lake George to the North Channel of Lake Huron, including the St. Joseph Channel.
- Site 207; the river south of Neebish Island and west of St. Joseph Island to Detour Village, including Munuscong Lake and Raber Bay.
- Site 210; the river east of the village of Detour Village including Potagannissing Bay extending from Milford Haven on St. Joseph Island to Chippewa Point on Drummond Island.

Both weekend days and three randomly selected weekdays were sampled each week. The entire angling day from dawn to dusk was covered in each month. This was accomplished by breaking each day into two 8-hour work shifts, then randomly selecting one shift to be worked. The first shift began at daylight and ended in the afternoon; the second shift began in the afternoon and ended at sunset. Shift hours varied by month due to varying length of daylight among months. Each individual clerk was responsible for sampling more than one area, thus the interview site for each clerk was also randomly selected for each shift. Two types of data were collected for each area sampled: angler party interviews for catch rates and angler (boat, pier/dock and shore) counts for effort. An angler party was defined as one or more anglers who fished together.

Three clerks were employed by the MDNR and two by the OMNRF to perform the survey. Due to hiring challenges, the third MDNR clerk did not start until mid-July; in the interim these shifts were backfilled by other MDNR staff. All five clerks were trained by MDNR Fisheries personnel at the beginning of the survey season to ensure the consistency of data collected. Data was submitted monthly by MDNR clerks for review by the MDNR. OMNRF data was reviewed by the MDNR at the conclusion of the survey due to utilizing different means of data entry.

Clerks interviewed as many anglers as possible by encountering boats that returned to access sites or shore and pier anglers that fished during a scheduled shift. If the boater did not fish, that was recorded as a non-fishing party and the interview was ended. If fishing did take place, anglers were queried as to their mode of fishing (i.e., boat, pier, shore), where they fished (site and grid number), how long they fished, what they fished for, the number of lines fished, how often they fished the area, the numbers (by species) of fish they

caught and kept, the numbers (by species) of fish released, and the number of fishing trips they made or intended to make that day. Additional data were collected for one member of each party such as age and sex, zip code, and the types of angling method used (casting, jigging, still fishing, trolling, etc.).

Fishing effort was determined through instantaneous counts of boats and fishing piers made from airplane surveys. Four flights were made each week at randomly selected starting times: one each weekend day, and one on each of two randomly selected weekdays. Flights were also randomly started at the northern and southern end of the route. Aerial counts of fishing boats, the number of people present on fishing 'piers', and shore anglers were performed. The proportion of boaters interviewed by creel clerks who indicated they were not fishing was used to adjust the aerial counts for non-fishing effort. Creel clerks also recorded a ratio of anglers to non-anglers that were present on fishing piers at randomly selected times of day. This angler ratio was applied to the airplane count of total people present on any piers. Shore anglers present at Site 403 (the Canadian rapids) were counted by the clerk twice daily at randomly assigned times on scheduled shifts.

Effort estimates were made for each site and mode by month. Harvest estimates were made for each site and mode by month for all fish species observed in the harvest by creel clerks. Catch estimates were made for each site and mode by month and included numbers harvested and numbers of legal-sized fish released for those selected species. Standard mathematical formulas for creel survey (Lockwood et al. 1999) were used to calculate all estimates. Three measures of fishing effort were calculated: angler hours, angler trips, and angler days. An angler trip is one completed fishing excursion and an angler day is composed of one or more fishing excursions during a 24-hour period. Uncertainty estimates for all catch and effort estimates in this report are defined as two standard errors of their mean estimates (2 times the square root of the variance for an estimate).

Creel clerks also collected biological data from harvested fish (total length and weight and fin clip information) encountered during on-site angler interviews. Dorsal fin spines or rays and scales were also collected for certain species for age estimation. Monthly target sample sizes for age analysis were based on a minimum number needed to provide a reasonable representation of the age structure of the harvest each month, balanced with the logistical feasibility of the creel clerk to collect biological data samples without negatively impacting angler interview numbers.

Results

Interview and Angler Effort

A total of 1,177 angler interviews were conducted on the St. Marys River from May 1-October 31, 2022. This represented 2,218 anglers, with an average angling party size of 1.9 anglers.

Total effort for the open water fishery (May 1-October 31, 2022) for the entire river was 438,188 angler hours (Table 1). Note that this does not include Site 403 (the Rapids), since it was not surveyed in all years. This is up considerably from the 2017 estimate of 232,921 angler hours but is slightly below the long-term average from 1999-2022 of 466,549 angler hours. Note that the 2017 estimate did not include site 404 (Upper River) which on average accounts for 51,708 angler hours. Total effort in Site 403 (the Rapids) was 12,192 angler hours in 2022, slightly below the average of 13,125 hours from the three years surveyed (Table 1a). In 2022, Site 210 (Potagannissing Bay) had the most fishing effort, followed by (in decreasing order of effort) Site 207 (Munuscong and Raber bays), Site 208 (Lake George), Site 209 (Sault Ste. Marie area and Lake Nicolet), Site 405 (St. Joseph Channel), and Site 404 (Upper River) (Table 1, Appendix 3). Walleye were the most popular fish to target, with 197,581 angler hours (45%) targeting that species (Table 2).

Harvest

A total of 17 different fish species were reported as caught during the 2022 Creel Survey (Table 3). Harvest estimates for these species are reported in Table 3, with some rarely encountered fish species grouped in the “other” category. Estimated harvest numbers and harvest rates by species for the survey series are reported in Appendix 2, Table 1.

Harvest numbers for the survey series are presented in Table 4 for Cisco, Northern Pike, Smallmouth Bass, Walleye, and Yellow Perch. Site-specific harvest numbers for each species are detailed in Appendix 3. Total catch by species, including released fish, is listed in Appendix 4.

Harvest Rates

Species-specific harvest rates (harvest per hour) for the survey series for the full river, based on total effort for all species, are presented in Table 5 for Cisco, Northern Pike, Smallmouth Bass, Walleye, and Yellow Perch. These rates are presented for all species by site-specific locations in Appendix 3, Tables 1-7.

Biological Summary of Angler Harvest

Biological data were collected from a total of 261 fish by creel clerks in 2022 and are summarized in Table 6. Structures used for aging fish, such as scales or fin spines/rays, were not collected from all samples as a much larger sample size of fish was aged during the 2022 fish community index netting survey. That survey is summarized by O’Connor et al. (2024), and provides a better view of the age and size structure of the sport fish population.

Angler Interview Summary

Angler origin

Most anglers fishing the St. Marys River were from Michigan and Ontario, but anglers from throughout the United States and Canada were interviewed. Where the angler provided their home mailing code, about 60% were U.S. and 40% were Canadian. In 2017, angler origin was approximately 68% of the anglers from the U.S. In 2022, most (64.8%) of anglers were considered “local,” with a postal code within 40 km of the river. Expanding that “local” definition to 80 km, would include 67.4% of the anglers (Figure 3). Although 96.2% of the anglers were from Michigan and Ontario, other areas of the United States and Canada were represented. Anglers from nine states other than Michigan were interviewed (Pennsylvania, Virginia, Kentucky, Ohio, Indiana, Wisconsin, Illinois, Missouri, and Texas), while three provinces other than Ontario were represented (New Brunswick, Quebec, and British Columbia) (Figure 4). The map of angler origin for North America shows the distribution of angler origin, with the majority coming from Midwestern states and Ontario.

Angling Target Species, Angling Method, Mode, and Party Size

The St. Marys River provides diverse angling opportunities in the different species that can be targeted and the angling methods used. In 2022, anglers targeted a variety of species throughout the season (Table 7). Walleye were the most targeted species (22%), followed by those anglers who were fishing for Atlantic Salmon (15%), anything (8%). Rainbow Trout (14%) and Northern Pike (12%) were also popular targets.

The St. Marys River Rapids (Site 403) continues to be a popular fishing location, particularly for migratory salmonid species. The target species here changes seasonally based on seasonal migration patterns and what species are in the rapids habitat at that time (Table 8). Rainbow Trout (Steelhead) are the most targeted

species in May and June, while Atlantic Salmon are the most targeted species in July and August. The fishery focus turns to Chinook Salmon in October.

Discussion

Fishing Effort

Overall recreational fishing effort in the St. Marys River from May-October 2022, was 438,188 angler hours. This is close to the long-term average for the river and is 88% higher than the amount of fishing effort estimated in the 2017 survey (Table 9). It should be noted that 2022 was more typical and consistent with past years than 2017, which was unusually low, however the 2017 did not include an estimate for Site 404 which usually accounts for an average of 51,708 angler hours (based on previous surveys). Overall, the 2022 open water St. Marys River recreational fishery estimate is almost 64% as much as the total fishing effort in Michigan waters of Lake Huron during that same period. Compared with the historical angler hours for the Michigan waters, whereby the St. Marys River captured approximately 30% as much effort, the increase to 64% is substantial (Table 9). Clearly, the St. Marys River hosts a relatively intense recreational fishery.

This amount of fishing effort is even more impressive when viewed in comparison to other popular fisheries in the region on a per surface acreage basis. In 2022, the St. Marys River had more fishing effort per unit surface area than Big Bay de Noc and Saginaw Bay and compared favorably with Little Bay de Noc when looking at the fishing pressure per surface acre (Figure 5).

Harvest and Harvest Rates

Cisco

Cisco harvest in 2022 was 32,604 fish, which was similar to the 2017 harvest (Table 4). Both years are below the average of Cisco harvested (89,588) from the series. The harvest rate (number per hour) of Cisco in 2022 (0.0724, Table 5) was down from the harvest rate observed in 2017 (which was 0.1313). The mean age of Cisco in the catch was 2.3 years (Table 6).

The Cisco fishery in the St. Marys River can be extremely variable (Table 4). The fishery largely coincides with the emergence of burrowing mayflies, which draws the Cisco population together to feed. It is often influenced by factors such as weather conditions during the feeding congregation, in addition to the timing and duration of the mayfly emergence and feeding congregation, which can be reflected in the numbers harvested. It is important to note that the regulations for Cisco have changed over the years in both Ontario and Michigan waters. In 2008, Ontario fishing regulations changed, reducing the no daily possession limit to a daily possession limit of 25 Cisco or 12 Cisco depending on the type of license (sportfishing or conservation). In 2020, Michigan fishing regulations went from a daily possession limit of 12 Cisco to 10 (combined limit of Lake Whitefish, Cisco, and Round Whitefish). It is notable that since the regulation change in 2008, unlimited harvest to 25/12 fish in Ontario waters, both harvest and harvest rate have declined significantly in subsequent creel surveys. More conservative regulations have resulted in reduced Cisco harvest.

The catch-per-unit-effort (CPUE) of Cisco in the 2022 Fish Community Index Netting (FCIN) survey was up substantially in 2022 compared to 2017 (O'Connor et al. 2024). The trend in CPUE in the FCIN between 2017 and 2022 is opposite the harvest rate trend from the creel survey. While it is possible harvest rates are down for Cisco in 2022, using total effort for calculating harvest rate may confound the trend. The Cisco recreational fishery is very much a targeted fishery using specialized gear (long rods, light line, and tear drop jigs or wet flies) where boats congregate on schools of feeding Cisco. When schools are hard to locate and success is low, fishing effort likely dissipates rapidly. Cisco are also not often caught incidentally while

angling for other species. Therefore, targeted Cisco effort may not be proportional to overall trends in total effort due to the unique nature of this fishery. While the calculation of these metrics has been consistent in the survey series for comparison purposes, there are other conditions that should be considered. A new creel clerk was hired in mid-July for the lower river on the Michigan side and it is possible that the Cisco fishery was under sampled during the relatively short window of good activity for this species.

Northern Pike and Muskellunge

Northern Pike harvest and harvest rate were higher in 2022 compared to 2017 (Tables 4 and 5). These were continuing an upward trend since the low of 2005. As stated in the 2017 creel report, Northern Pike are likely beneficiaries of higher water levels in the St. Marys River in the last decade. Coastal wetlands along the St. Marys River provide critical spawning and nursery habitat for this species. Great Lakes water levels are generally higher since 2013. The compensating works/gates at the head of the St. Marys River rapids are regulated by the International Lake Superior Board of Control and control the outflow of Lake Superior into the rest of the St. Marys River and down to Lakes Huron and Michigan. River flows in the last 10 years have been higher than they had been for decades prior, which provided for additional flooded vegetation along the river margins, and increased pike spawning and nursery habitat. The mean age of Northern Pike harvested in 2022 was 3.9 years (Table 6).

Interestingly, the CPUE of Northern Pike in the FCIN survey was lower in 2022 compared to 2017. Northern Pike relative abundance (CPUE) has been increasing in the St. Marys River FCIN since 2002, but declined in 2022 (O'Connor et al. 2024).

Unfortunately, little information was gained about the Muskellunge fishery in the St. Marys River during the 2022 creel survey. Interviews of anglers targeting this species were few in 2022, and interviews of successful Muskellunge anglers were absent. No conclusions or trend identification can be derived from this, however, as informal angler reports point to a popular fishery for Muskellunge in certain reaches of the river. Note that regulations for Muskellunge changed in 2018 for Michigan waters of the St. Marys River downstream of the compensating gates to DeTour Village. The minimum size limit went from 42 inches to 46 inches. The possession limit remained at one Muskellunge per angler per angling year.

Smallmouth Bass

Both harvest and harvest rate of Smallmouth Bass were up in 2022 and were the highest observed in the survey series. Smallmouth Bass harvest was almost four times that of the harvest in 2017 (Table 4), however, fewer than 7% of angling parties reported they were targeting Smallmouth Bass in 2022 (Table 7). Almost 86% of the Smallmouth Bass harvest occurred in Site 210, Potagannissing Bay (Appendix 3, Table 5), with most of the harvest occurring in May, June, and July. Despite the increase in harvest of Smallmouth Bass, catch and release fishing for this species remains popular. The total catch of Smallmouth Bass in 2022, including harvest, sublegal release, and legal release, was approximately four times that of total harvest alone (Appendix 4, Table 1). Another explanation for the increase in bass harvest may be improvements in fishing technology, e.g. Garmin Livescope™.

Walleye

Walleye remain an important recreational fish in the St. Marys River and continue to be the most targeted species (Table 7). Overall harvest and harvest rate are higher than they were in 2017 but remain lower than the 2007 values (Tables 4, 5). Walleye harvest and harvest rates from 2007 are the highest in the survey series and represent the potential for the Walleye fishery in the river, but likely can't be achieved every year. The FCIN survey continued to show the Walleye population to be remarkably stable (O'Connor et al. 2024). The mean age of Walleye harvested in the St. Marys River in 2022 was 5.4 years (Table 6).

Yellow Perch

Yellow Perch support a popular fishery in the St. Marys River. Almost 7% of angling parties reported targeting Yellow Perch (Table 7). Site 210 had the highest percentage (2.8%) of anglers targeting Yellow Perch, second to Walleye for that area (Table 7). Other areas that were popular for Yellow Perch fishing include site 404 (Upper River) and site 207 (Raber Bay and Lake Munuscong).

Yellow Perch harvest rate remained steady for 2022 compared to 2017, but harvest was up (Tables 4, 5). This is consistent with the increased fishing effort in the river. The overall harvest rate has remained relatively stable over the time series (Table 5). The FCIN survey reports likewise show a stable Yellow Perch population over the time series for that survey (O'Connor et al. 2024). The mean age of Yellow Perch harvested was 3.7 years (Table 6). Fishing regulations for Yellow Perch in Michigan waters of the St. Marys River changed in 2019, with a reduction in the daily possession limit from 50 to 25. The minimum size limit of 7 inches (178 mm) was also removed at that time.

Other Species

While the main species in the St. Marys River fishery are Cisco, Northern Pike, Smallmouth Bass, Walleye, and Yellow Perch, there are a few other important species in the fishery. Although the magnitude of these fisheries may not be that of the primary species, the creel did provide some insight into their status.

The 2022 harvest estimate of 5,811 Atlantic Salmon is more than double any previous year's estimate (Appendix 2, Table 1). Atlantic Salmon have been stocked in the St. Marys River since 1987. There is very little natural reproduction of this species, so it continues to be dependent upon stocking. Along with the increased popularity of this species, the increased harvest may also be a factor of changes in stocking practices. For many years, Atlantic Salmon stocked in the St. Marys River have been raised and stocked by Lake Superior State University (LSSU). In recent years, the Michigan Department of Natural Resources also began raising Atlantic Salmon and started stocking them in the St. Marys River in 2011 both to augment the numbers stocked by LSSU and to help evaluate the hatchery product. Although MDNR had stocked Atlantic Salmon before the 2017 survey, improvements in rearing methods and fish quality are likely leading to better survival and numbers in the fishery for the 2022 survey period.

Other salmonids in the survey include Lake Whitefish and Rainbow Trout. Lake Whitefish harvest is down considerably at only 10% of the 2007 peak value, while Rainbow Trout harvest and harvest rate are at all-time highs in 2022 for the time series at 1,944 (Appendix 2, Table 1).

Economic Value

The U.S. Fish and Wildlife Service conducted a national survey of fishing, hunting, and wildlife-associated recreation in 2022 and estimated daily expenditures for hunters and anglers (USDI 2022). The 2022 report estimates that the average daily expenditure by anglers is \$47, including both freshwater and saltwater anglers. Applying that \$47 per day value to the 99,441 angler days estimated for 2022 (Table 3), the economic impact of the St. Marys River recreation fishing would be approximately \$4,700,000 in 2022.

The US Fish and Wildlife Service did a similar survey in 2016 but split out expenditures by different angling types and regions. The 2016 report indicated that Great Lakes anglers spend \$153 per day on fish trip-related expenses. Using that value, the St. Marys recreational fishery would be valued at \$15,200,000. Recreational fishing in the St. Marys River has a substantial economic impact using either method for calculating its value!

Recommendations

This survey provides valuable information about recreational fishing activity in the St. Marys River, and is more valuable when combined with the FCIN survey. The creel survey should be conducted every five years along with the FCIN survey and should coincide with the year of intensive monitoring under the Cooperative Scientific Monitoring Initiative (CSMI).

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The SMRFTG is organized under the Great Lakes Fishery Commission's Lake Huron Committee and coordinates fisheries management among the various agencies with jurisdiction over the St. Marys River (Fielder 2002).

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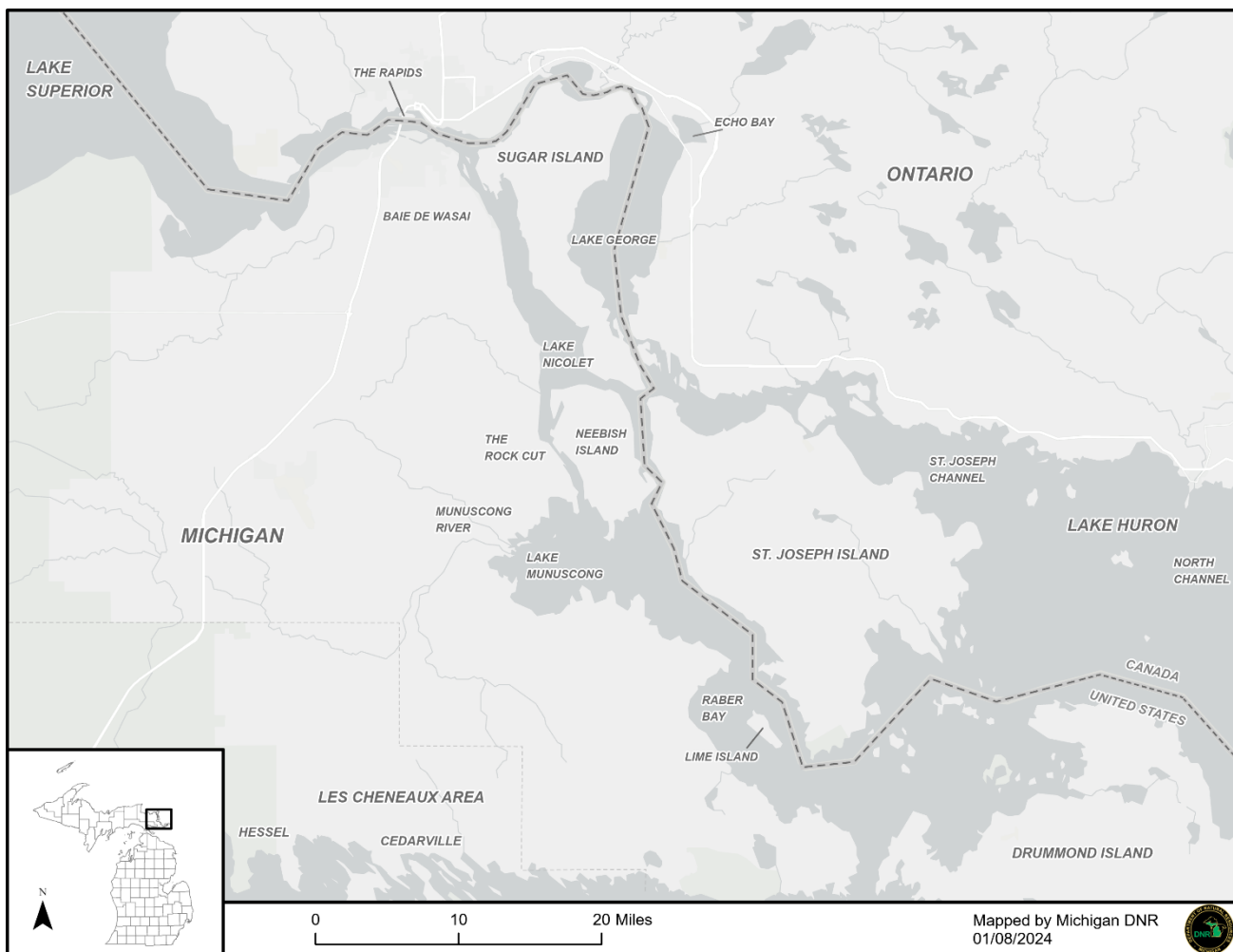


Figure 1. Map of the St. Marys River indicating major reaches of the river.

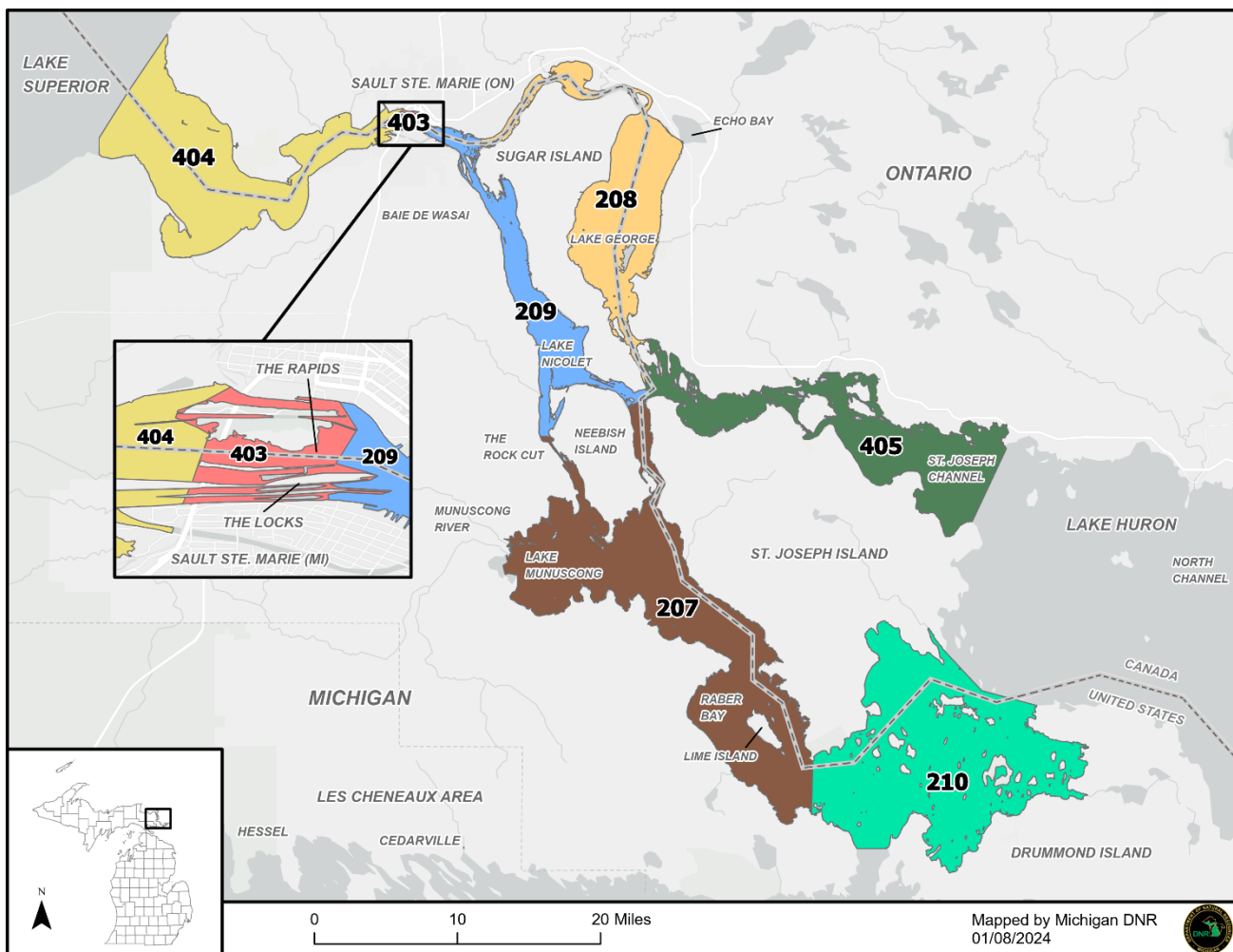


Figure 2. Creel Survey sites sampled in 2022.

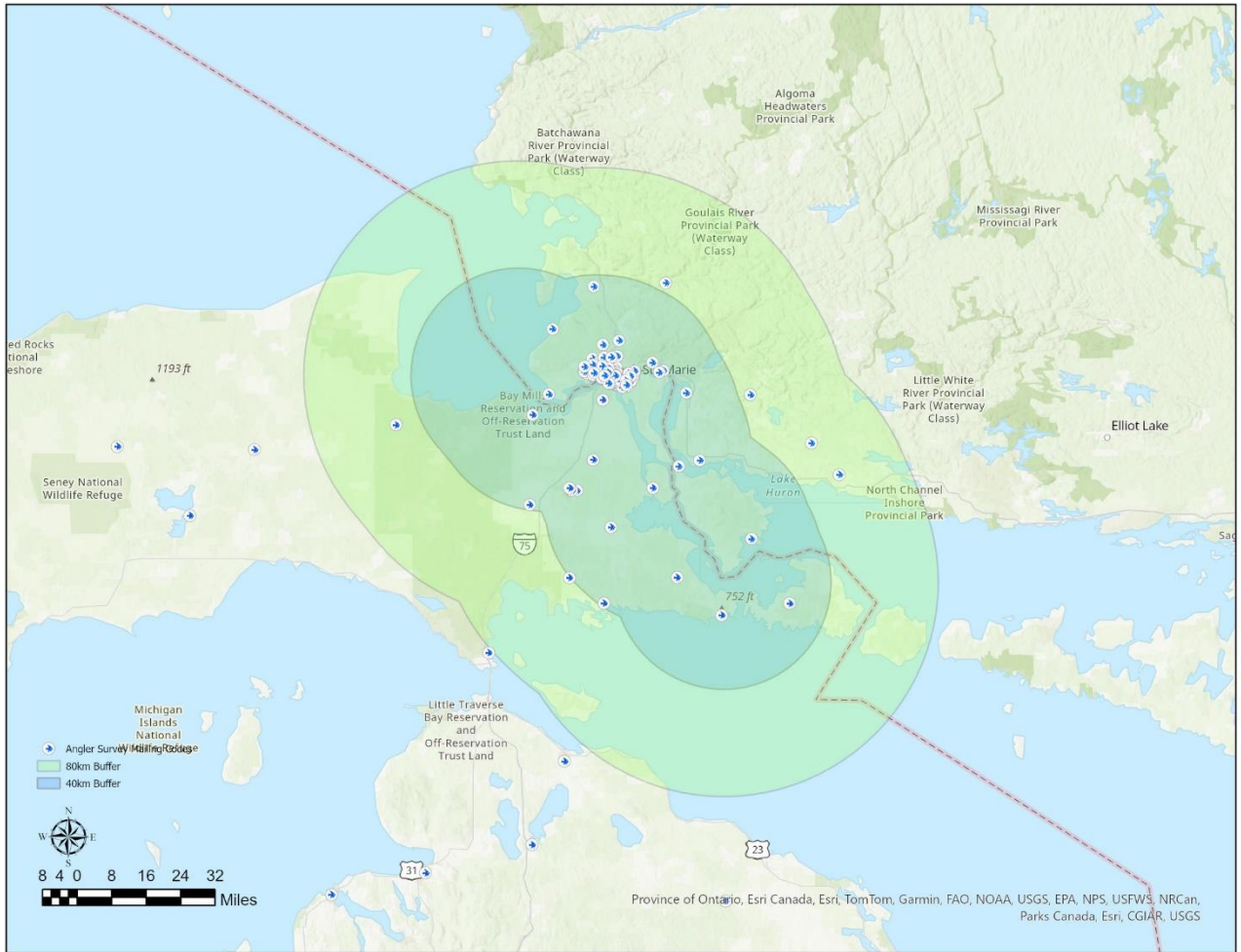


Figure 3. Angler origin for “local” anglers, or those with mailing postal codes within 40 kilometers and 80 kilometers of the river.

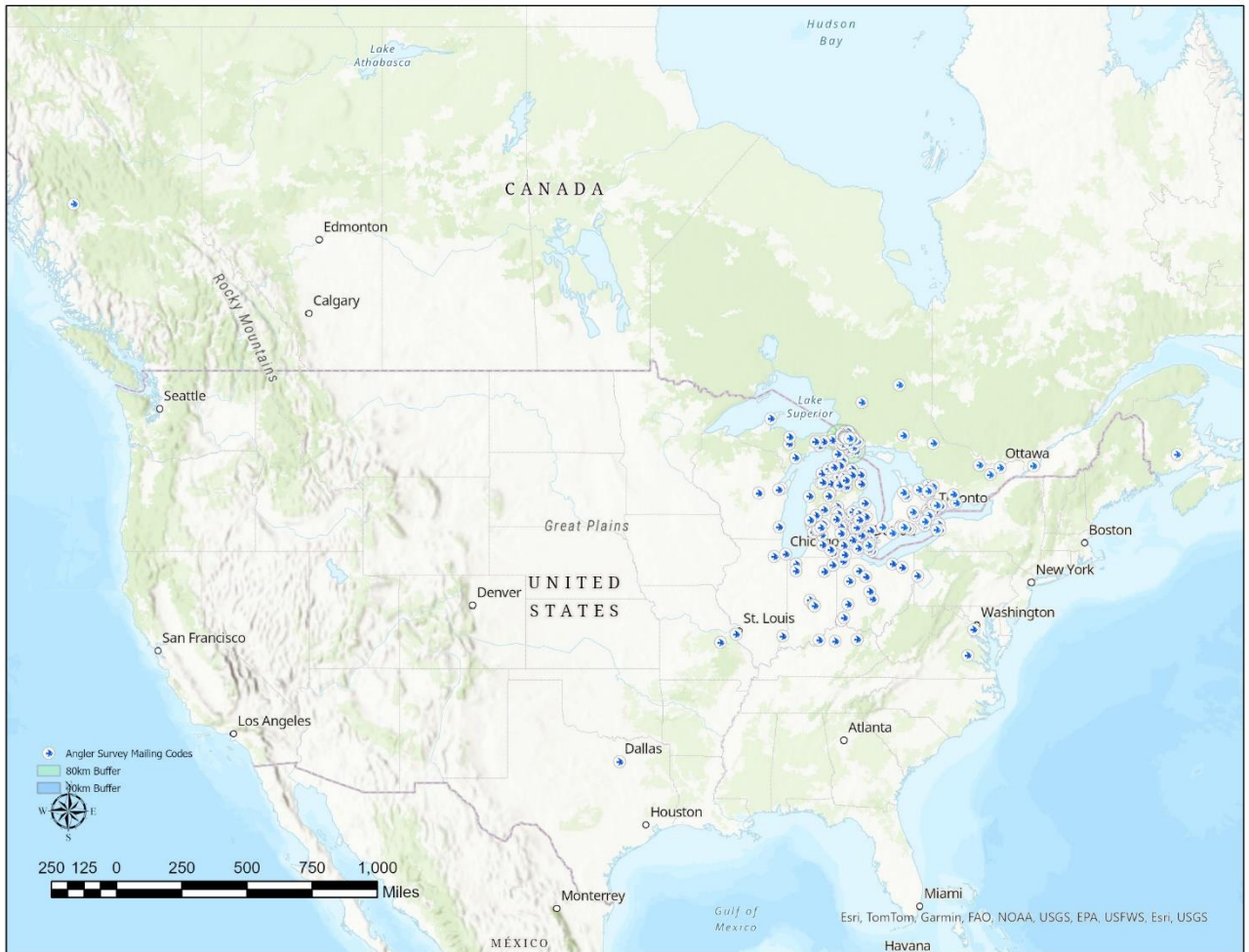


Figure 4. Map of angler origin for those fishing the St. Marys River in 2017, based on U.S. Zip/Canadian postal codes provided during the interview.

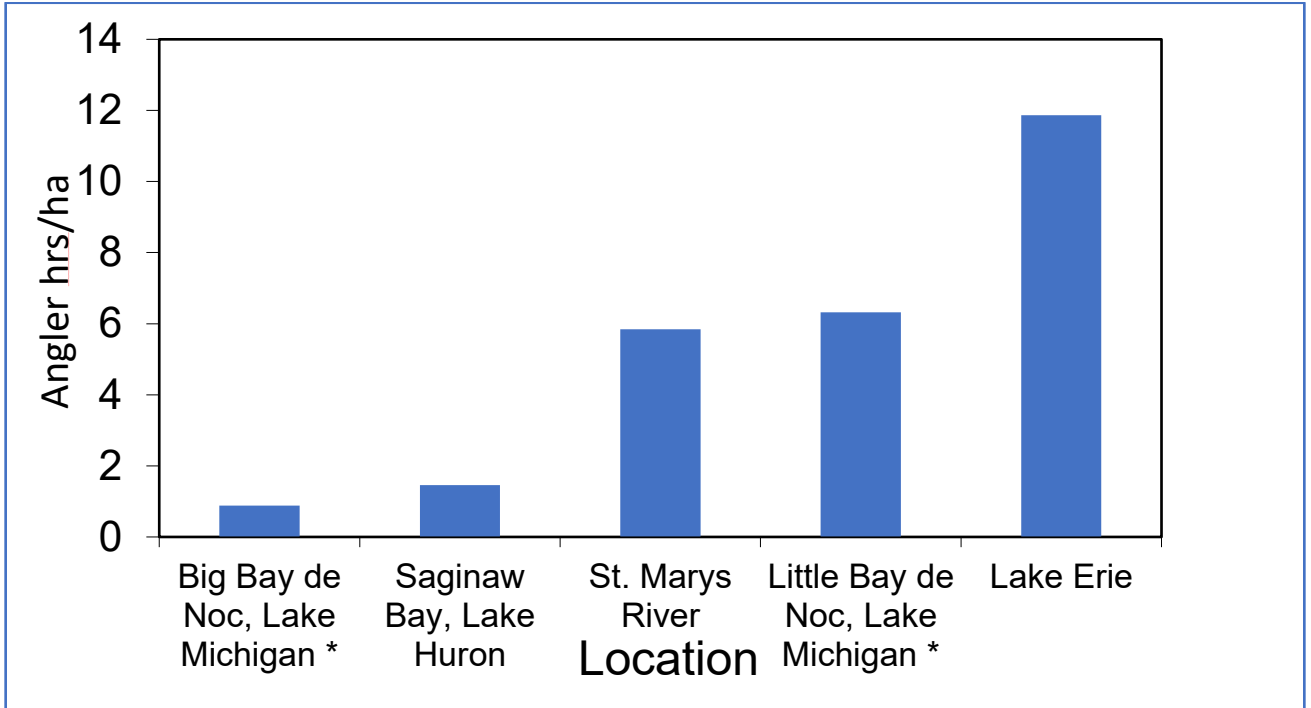


Figure 5. Recreational fishing effort by surface area in 2022 for several popular fishing locations in Michigan. Note that the Lake Erie estimate is for Michigan waters only. *Indicates that the estimates are for the 2021 open water season.

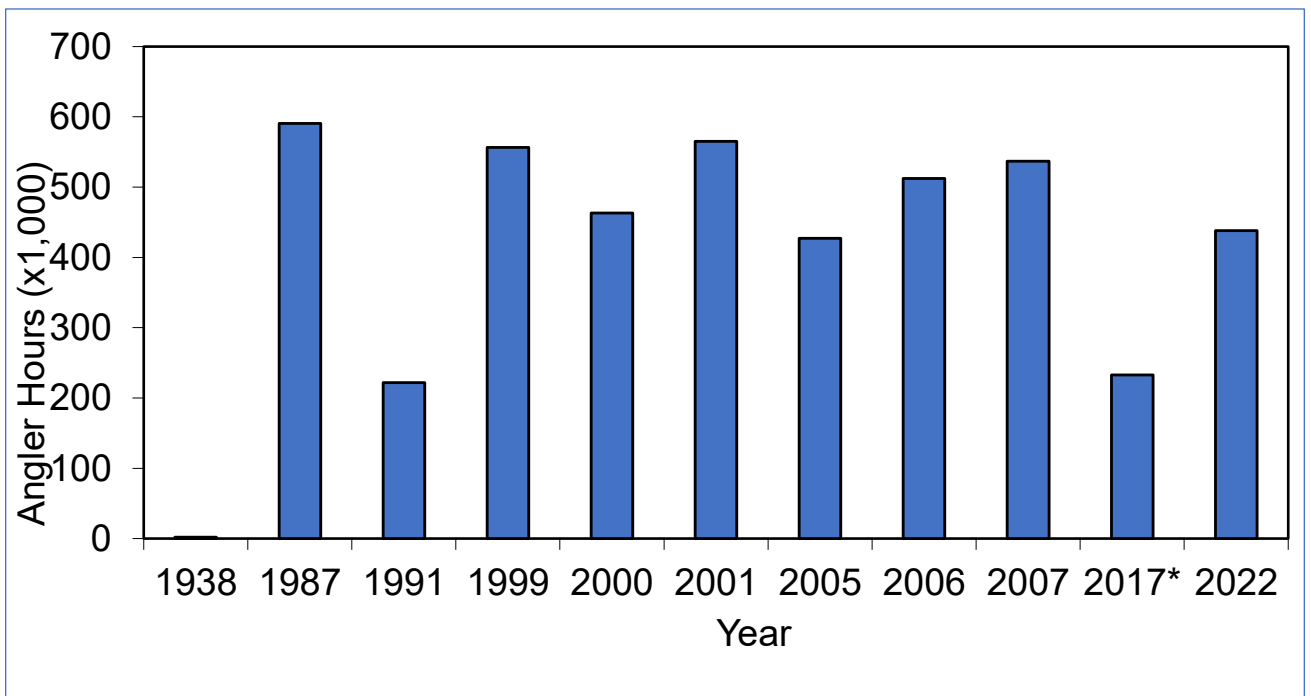


Figure 6. Trends in St. Marys River open-water recreational fishing effort. *Site 404 was not included in the 2017 estimate.

Table 1. Estimated recreational effort (in hours) for all species from open-water recreational fisheries in the St. Marys River 1999-2001, 2005-2007, 2017, and 2022. Italics denotes data obtained through extrapolation methods described in the Methods section (Greenwood et al. 2011). Note that site 403 (Rapids) is not included, as it was not surveyed every year. Two standard errors are in parentheses.

| Year | Site | | | | | | Total |
|----------------------------|---------------------------|---------------------------|-----------------------------------|----------------------------|-----------------------------------|-----------------------------------|-----------------------------|
| | 207 | 208 | 209 | 210 | 404 | 405 | |
| 1999 | 112,283 (19,570) | 96,732 (16,256) | 68,441 (11,010) | 140,743 (27,674) | 58,561 (11,454) | 65,307 (12,611) | 556,399 (42,820) |
| 2000 | 93,301 (15,420) | 60,816 (12,794) | 60,564 (11,511) | 131,107 (20,871) | <i>55,616</i> <i>(46,434)</i> | <i>61,572</i> <i>(76,874)</i> | 462,976 (183,904) |
| 2001 | 124,823 (28,135) | 97,111 (17,919) | 76,694 (14,401) | 123,878 (17,646) | <i>67,671</i> <i>(64,802)</i> | <i>74,918</i> <i>(106,689)</i> | 565,095 (249,592) |
| 2005 | 68,289 (12,840) | 51,245 (10,260) | <i>54,378</i> <i>(232,480)</i> | 131,887 (35,124) | <i>47,410</i> <i>(60,886)</i> | 74,105 (14,371) | 427,314 (365,960) |
| 2006 | 93,025 (24,502) | 70,944 (14,685) | 84,845 (15,437) | 152,254 (36,035) | <i>58,378</i> <i>(72,178)</i> | <i>*52,984</i> <i>*(9,645)</i> | 512,430 (172,483) |
| 2007 | 139,310 (34,103) | 35,273 (8,859) | <i>71,430</i> <i>(313,367)</i> | 183,668 (60,215) | <i>62,276</i> <i>(107,502)</i> | 45,112 (11,057) | 537,069 (535,103) |
| 2017 | 45,491 (26,153) | 33,122 (17,306) | 24,332 (9,559) | 98,966 (47,311) | <i>Not</i> <i>Surveyed</i> | 31,010 (12,455) | 232,921 (112,784) |
| 2022 | 86,591 (45,008) | 61,794 (22,748) | 56,585 (19,894) | 172,662 (91,086) | 12,043 (6,840) | 48,513 (11,949) | 438,188 (104,365) |
| Average (1999- 2022) | 95,389 | 63,380 | 62,159 | 141,896 | 51,708 | 57,220 | 466,549 |

* In 2006, no interviews were conducted for Site 405, see Greenwood et al. (2011) for methods.

**In 2017, site 404 was not surveyed.

Table 1a. Estimated recreational effort (in hours) by month and year for all species from open-water recreational fisheries in the St. Marys River at site 403 (Rapids). Two standard errors are in parentheses. NS indicates the site was not surveyed that month.

| Year | May | June | July | August | September | October | Season |
|------|------------------|------------------|------------------|----------------|------------------|----------------|-------------------|
| 1999 | 3,707 (1,154) | NS | 2,230 (1,600) | 493 (447) | 6,382 (2,120) | 1,518 (655) | 14,330 (3,002) |
| 2017 | 4,604 (1,338) | 2,469 (1,342) | 1,796 (752) | 869 (460) | 1,641 (732) | 1,475 (727) | 12,854 (5,350) |
| 2022 | 3,911 (1,377) | 2,316 (679) | 862 (493) | 1,301 (464) | 1,740 (442) | 2,062 (405) | 12,192 (3860) |

Table 2. Estimated targeted effort (in hours) for selected species for the open-water recreational fisheries in the St. Marys River 1999-2001, 2005-2007, 2017, and 2022. Two standard errors are in parentheses.

| | Year | | | | | | | |
|-----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------|
| | 1999 | 2000 | 2001 | 2005 | 2006 | 2007 | 2017 | 2022 |
| Walleye | 126,988 (25,083) | 119,122 (24,654) | 161,526 (28,699) | 168,031 (53,463) | 168,333 (37,817) | 200,006 (63,957) | 118,484 (16,713) | 197,581 (889) |
| Yellow | 89,238 | 60,607 | 78,869 | 32,414 | 58,191 | 65,326 | 39,885 | 69,975 |
| Perch | (18,255) | (16,698) | (20,924) | (14,026) | (23,031) | (30,758) | (6,648) | (529) |
| Salmonids | 122,280 (20,238) | 56,988 (14,007) | 79,529 (21,306) | 76,419 (43,360) | 49,241 (14,674) | 66,488 (44,801) | 29,635 (3,985) | 30,058 (347) |

Table 3. Estimated harvest per hour and total number harvested by species for each month. Angler effort (angler hours, trips, and days) for the St. Marys River system (Michigan and Ontario), for all sites including Site 403 (Rapids) and all non-charter modes of sportfishing, for each month in 2022. Two standard errors are in parentheses. N/A indicates the value could not be generated.

| Species | Harvest per hour | May | June | July | August | September | October | Season |
|----------------------|-------------------------|------------------|------------------|--------------------|----------------|------------------|------------------|--------------------|
| Atlantic Salmon | 0.0129 (0.0294) | 226 (426) | 52 (104) | 2,476 (1,520) | 2,149 (4) | 152 (183) | 756 (912) | 5,811 (3,149) |
| Channel Catfish | 0.0002 (0.0000) | 0 (0) | 0 (0) | 0 (0) | 78 (0) | 0 (0) | 0 (0) | 78 (0) |
| Chinook Salmon | 0.0005 (0.0021) | 1 (3) | 0 (0) | 138 (132) | 24 (27) | 40 (60) | 0 (0) | 203 (222) |
| Coho Salmon | 0.0013 (0.0005) | 0 (0) | 0 (0) | 41 (56) | 558 (0) | 0 (0) | 0 (0) | 599 (56) |
| Lake Trout | 0.0001 (0.0010) | 51 (106) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 51 (106) |
| Largemouth Bass | 0.0006 (0.0050) | 0 (0) | 0 (0) | 286 (532) | 0 (0) | 0 (0) | 0 (0) | 286 (532) |
| Lake Herring (Cisco) | 0.0724 (0.2515) | 0 (0) | 3,927 (8,495) | 28,677 (18,443) | 0 (0) | 0 (0) | 0 (0) | 32,604 (26,938) |
| Lake Whitefish | 0.0123 (0.0404) | 1,224 (1,059) | 1,057 (1,176) | 1,062 (753) | 281 (0) | 56 (85) | 1,852 (1,255) | 5,532 (4,327) |
| Northern Pike | 0.0195 (0.1090) | 928 (1,391) | 2,968 (4,452) | 2,123 (2,835) | 1,322 (762) | 476 (1,071) | 968 (1,163) | 8,785 (11,675) |
| Other | 0.0009 (0.0034) | 0 (0) | 0 (0) | 0 (0) | 425 (369) | 0 (0) | 0 (0) | 425 (369) |
| Pink Salmon | 0.0050 (0.0161) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 2,233 (1,720) | 0 (0) | 2,233 (1,720) |

Table 3. – cont.

| Species | Harvest per hour | May | June | July | August | September | October | Season |
|--------------------|---------------------|--------------------|------------------|---------------------|--------------------|--------------------|--------------------|----------------------|
| Pumpkinseed | 0.0001 (0.0011) | 59 (119) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 59 (119) |
| Rainbow Trout | 0.0043 (0.0087) | 1,246 (397) | 526 (311) | 90 (115) | 0 (0) | 66 (89) | 16 (17) | 1,944 (929) |
| Rock Bass | 0.0007 (0.0057) | 0 (0) | 0 (0) | 297 (607) | 0 (0) | 0 (0) | 0 (0) | 297 (607) |
| Smallmouth Bass | 0.0269 (0.1572) | 7,025 (9,725) | 1,971 (2,729) | 1,560 (1,962) | 963 (1,388) | 325 (531) | 285 (501) | 12,129 (16,836) |
| Walleye | 0.0646 (0.2618) | 4,856 (4,018) | 7,259 (9,561) | 11,650 (12,609) | 3,661 (0) | 809 (1,201) | 866 (650) | 29,101 (28,038) |
| Yellow Perch | 0.1532 (0.6643) | 4,870 (6,684) | 904 (1,890) | 2,334 (2,876) | 15,777 (12,300) | 19,167 (21,201) | 25,957 (26,204) | 69,009 (71,154) |
| Angler hours | | 50,091 (33,249) | 70,708 N/A | 147,792 (48,804) | 76,526 (6,337) | 69,631 N/A | 35,632 (18,714) | 450,380 (107,104) |
| Angler trips | | 10,570 (7,101) | 19,573 N/A | 33,146 (12,880) | 17,251 (2,141) | 16,865 (12,111) | 7,432 (3,948) | 104,837 (38,181) |
| Angler Days | | 10,136 (6,954) | 16,388 N/A | 32,108 (12,588) | 16,851 (2,044) | 16,585 (11,772) | 7,374 (3,928) | 99,441 (37,286) |

Table 4. Estimated harvest (numbers of fish) for Cisco, Northern Pike, Smallmouth Bass, Walleye, and Yellow Perch from open-water sport fisheries in the St. Marys River 1999-2001, 2005- 2007, 2017, and 2022. Two standard errors are in parentheses.

| Year | Species | | | | |
|------|----------------------|--------------------|--------------------|--------------------|----------------------|
| | Cisco | Northern Pike | Smallmouth Bass | Walleye | Yellow Perch |
| 1999 | 31,258 (40,040) | 5,408 (5,170) | 1,188 (1,797) | 9,890 (8,255) | 62,646 (32,274) |
| 2000 | 113,621 (182,114) | 12,402 (17,744) | 3,235 (9,001) | 17,064 (17,768) | 86,098 (100,284) |
| 2001 | 131,662 (199,643) | 14,336 (22,768) | 3,653 (10,371) | 39,568 (30,643) | 91,120 (96,696) |
| 2005 | 48,163 (92,339) | 1,547 (3,516) | 4,216 (10,329) | 32,134 (24,882) | 84,097 (96,889) |
| 2006 | 168,988 (211,690) | 14,894 (18,288) | 5,322 (10,567) | 38,743 (46,952) | 118,214 (150,617) |
| 2007 | 158,141 (372,281) | 4,231 (5,322) | 4,030 (7,691) | 60,733 (56,668) | 125,391 (180,500) |
| 2017 | 32,267 (18,255) | 3,968 (3,885) | 3,073 (3,379) | 13,963 (13,865) | 39,241 (29,657) |
| 2022 | 32,604 (26,938) | 8,785 (11,675) | 12,129 (16,836) | 29,101 (28,038) | 69,009 (71,154) |

Table 5. Mean annual harvest per hour for Cisco, Northern Pike, Smallmouth Bass, Walleye, and Yellow Perch (based on total effort) from open-water sport fisheries in the St. Marys River (from all sites including Potagannissing Bay), 1999-2001, 2005-2007, 2017, and 2022. Two standard errors are in parentheses.

| Year | Cisco | Northern Pike | Smallmouth Bass | Walleye | Yellow Perch |
|-------------|--------------------|----------------------|------------------------|--------------------|---------------------|
| 1999 | 0.0562 (0.0721) | 0.0097 (0.0093) | 0.0021 (0.0032) | 0.0178 (0.0149) | 0.1126 (0.0586) |
| 2000 | 0.1631 (0.1688) | 0.0284 (0.1626) | 0.0069 (0.1167) | 0.0376 (0.1606) | 0.1314 (0.3123) |
| 2001 | 0.1790 (0.1766) | 0.0269 (0.1685) | 0.0055 (0.1568) | 0.0687 (0.1872) | 0.1462 (0.3438) |
| 2005 | 0.0708 (0.2116) | 0.0037 (0.1457) | 0.0072 (0.1302) | 0.0747 (0.2265) | 0.1297 (0.3742) |
| 2006 | 0.2303 (0.2176) | 0.0305 (0.1775) | 0.0108 (0.1794) | 0.0830 (0.2294) | 0.1705 (0.4210) |
| 2007 | 0.1587 (0.5180) | 0.0093 (0.1829) | 0.0080 (0.2191) | 0.0997 (0.3410) | 0.1686 (0.3787) |
| 2017 | 0.1313 (0.1545) | 0.0161 (0.0329) | 0.0125 (0.0286) | 0.0568 (0.1174) | 0.1597 (0.2510) |
| 2022 | 0.0724 (0.2515) | 0.0195 (0.1090) | 0.0269 (0.1572) | 0.0646 (0.2618) | 0.1532 (0.6643) |

Table 6. Summary of biological data collected from the St. Marys River during the open water sport fishery of 2022, by capture sites. N = sample size and appears in parentheses if different than reported. Data for species with a sample size smaller than 5 were not included in this table.

| Species | Year | Capture sites | N | Mean Age | Mean Length (cm) | Mean Wt (g) |
|-----------------|-------------|------------------------------|----------|-----------------|-------------------------|--------------------|
| Atlantic Salmon | 2022 | 208, 209, 403 | 24 | 3.4 (23) | 65.5 | 3134 |
| Chinook Salmon | 2022 | 404 | 9 | 2.2 | 58.4 | 2068 |
| Cisco | 2022 | 210 | 9 | 2.3 | 28.0 | 177 (7) |
| Lake Whitefish | 2022 | 404 | 24 | - | 42.9 | 692 |
| Northern Pike | 2022 | 208, 209, 210, 404, 405 | 20 | 3.9 | 64.0 | 1678 (18) |
| Rainbow Trout | 2022 | 208, 209, 403, 404 | 17 | 2.7 (7) | 52.6 | 1315 (16) |
| Smallmouth Bass | 2022 | 207, 210, 405 | 26 | - | 36.6 | 816 (24) |
| Walleye | 2022 | 207, 208, 209, 210, 404, 405 | 81 | 5.4 (79) | 48.8 | 1179 (80) |
| Yellow Perch | 2022 | 207, 209, 210, 404, 405 | 51 | 3.7 (3) | 24.1 | 181 (50) |

Table 7. Percent of angling parties in the 2022 St. Marys River open water (May-Oct.) sport fishery reporting target species, by location as reported during angler interviews. N denotes number of respondents.

| SITE | 207 | 208 | 209 | 210 | 403 | 404 | 405 | Total |
|--------------------|------------|------------|------------|------------|------------|------------|------------|--------------|
| Salmon or Trout | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.8% | 0.0% | 0.9% |
| ANY | 0.8% | 0.4% | 1.6% | 1.3% | 0.1% | 1.1% | 2.5% | 7.7% |
| Atlantic Salmon | 0.0% | 2.0% | 9.0% | 0.0% | 3.4% | 0.0% | 0.1% | 14.5% |
| Channel Catfish | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.2% | 0.2% |
| Chinook Salmon | 0.0% | 0.1% | 0.2% | 0.0% | 1.2% | 0.0% | 0.0% | 1.5% |
| Coho Salmon | 0.0% | 0.1% | 0.0% | 0.0% | 0.4% | 0.0% | 0.0% | 0.4% |
| Lake Herring/Cisco | 0.1% | 0.0% | 0.0% | 2.3% | 0.0% | 0.0% | 0.1% | 2.5% |
| Lake Sturgeon | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.1% |
| Lake Trout | 0.0% | 0.4% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.4% |
| Lake Whitefish | 0.0% | 0.3% | 0.9% | 0.0% | 0.0% | 2.5% | 0.0% | 3.6% |
| Largemouth Bass | 0.0% | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.3% |
| Muskellunge | 0.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.4% |
| Northern Pike | 0.8% | 4.1% | 0.9% | 1.0% | 0.0% | 0.7% | 4.1% | 11.6% |
| Other | 0.1% | 0.0% | 0.0% | 0.2% | 0.0% | 0.1% | 0.0% | 0.4% |
| Pink Salmon | 0.0% | 0.1% | 3.0% | 0.0% | 2.2% | 0.0% | 0.0% | 5.3% |
| Rainbow Trout | 0.0% | 1.1% | 0.8% | 0.0% | 9.4% | 2.7% | 0.1% | 14.0% |
| Salmon | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.6% | 0.0% | 0.7% |
| Smallmouth Bass | 0.4% | 1.3% | 0.6% | 1.6% | 0.0% | 0.0% | 2.6% | 6.6% |
| Walleye | 6.0% | 3.8% | 2.9% | 4.4% | 0.0% | 0.7% | 4.1% | 22.0% |
| Walleye and Perch | 0.0% | 0.1% | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% | 0.2% |
| Yellow Perch | 1.1% | 0.3% | 0.1% | 2.8% | 0.0% | 1.6% | 0.9% | 6.8% |
| N | 111 | 159 | 228 | 155 | 189 | 123 | 168 | 1133 |

Table 8. Percent of angler parties reporting species targeted in the St. Marys River rapids sport fishery (Site 403) by month in 2022. N denotes sample size.

| | May | June | July | August | September | October |
|-----------------|------|------|------|--------|-----------|---------|
| ANY | | | | | | 8% |
| Atlantic Salmon | | 4% | 70% | 78% | 3% | 8% |
| Chinook Salmon | | | | 15% | 12% | 50% |
| Coho Salmon | | | | | 9% | 8% |
| Other | | | | 3% | | 5% |
| Pink Salmon | | | | 3% | 71% | |
| Rainbow Trout | 100% | 94% | 30% | | 6% | 25% |
| N | 70 | 26 | 20 | 27 | 34 | 12 |

Table 9. Comparison of open water fishing effort (May – Oct.) expressed as hours in the St. Marys River (excluding site 403 – the Rapids) to the lake wide fishery in the Michigan waters of Lake Huron and for Saginaw Bay. Site 403, the St. Marys rapids is excluded. *Site 404 (Upper River) was not surveyed in 2017.

| Year | St. Marys River effort (Hours, May-Oct.) | % as much of Lake Huron effort (Hours, May-Oct.) | % as much of Saginaw Bay effort (Hours, May-Oct.) |
|------|--|--|---|
| 1999 | 542,067 | 27.7 | 60.0 |
| 2000 | 462,976 | 26.7 | 61.2 |
| 2001 | 565,095 | 31.4 | 70.0 |
| 2005 | 427,314 | 32.3 | 57.3 |
| 2006 | 512,430 | 44.8 | 79.7 |
| 2007 | 537,069 | 38.7 | 62.7 |
| 2017 | 232,921* | 34.5 | 53.2 |
| 2022 | 438,188 | 63.6 | 104.9 |

Appendix 1. List of common and scientific names for fish species mentioned in this report.

| Common name | Scientific name |
|----------------------|---------------------------------|
| Atlantic Salmon | <i>Salmo salar</i> |
| Bluegill | <i>Lepomis macrochirus</i> |
| Brown Trout | <i>Salmo trutta</i> |
| Channel Catfish | <i>Ictalurus punctatus</i> |
| Chinook Salmon | <i>Oncorhynchus tshawytscha</i> |
| Coho Salmon | <i>Oncorhynchus kisutch</i> |
| Freshwater Drum | <i>Aplodinotus grunniens</i> |
| Lake Herring (Cisco) | <i>Coregonus artedii</i> |
| Lake Sturgeon | <i>Acipenser fulvescens</i> |
| Lake Trout | <i>Salvelinus namaycush</i> |
| Lake Whitefish | <i>Coregonus clupeaformis</i> |
| Largemouth Bass | <i>Micropterus salmoides</i> |
| Muskellunge | <i>Esox masquinongy</i> |
| Northern Pike | <i>Esox lucius</i> |
| Pink Salmon | <i>Oncorhynchus gorbuscha</i> |
| Pumpkinseed | <i>Lepomis gibbosus</i> |
| Rainbow Trout | <i>Oncorhynchus mykiss</i> |
| Rock Bass | <i>Ambloplites rupestris</i> |
| Round Whitefish | <i>Prosopium cylindraceum</i> |
| Smallmouth Bass | <i>Micropterus dolomieu</i> |
| Walleye | <i>Sander vitreus</i> |
| White Bass | <i>Morone chrysops</i> |
| White Perch | <i>Morone americana</i> |
| Yellow Perch | <i>Perca flavescens</i> |

Appendix 2, Table 1. Estimated species harvest numbers and harvest rate (in italics) from open-water sport fisheries in the St. Marys River, 1938 to 2022.

| Species | 1938 | 1987 | 1991 | 1999 | 2000 | 2001 | 2005 | 2006 | 2007 | 2017 | 2022 |
|-----------------|-------------|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Atlantic Salmon | 0 | 6 | 64 | 509 | 95 | 787 | 0 | 716 | 2,039 | 1,025 | 5,811 |
| | <i>0</i> | <i><0.0001</i> | <i>0.0001</i> | <i>0.0009</i> | <i>0.0002</i> | <i>0.0014</i> | <i>0</i> | <i>0.0014</i> | <i>0.0038</i> | <i>0.0042</i> | <i>0.0129</i> |
| Bluegill | | | | 107 | 0 | 0 | 0 | 0 | 0 | | 0 |
| | | | | <i>0.0002</i> | <i>0</i> | <i>0</i> | <i>0</i> | <i>0</i> | <i>0</i> | | <i>0</i> |
| Brown Trout | | | | | | | | | | 2 | 0 |
| | | | | | | | | | | <i>0</i> | <i>0</i> |
| Channel Catfish | | | | 109 | 5 | 12 | 131 | 0 | 13 | 69 | 78 |
| | | | | <i>0.0002</i> | <i>0</i> | <i>0</i> | <i>0.0003</i> | <i>0</i> | <i>0</i> | <i>0.0003</i> | <i>0.0002</i> |
| Chinook | 0 | 4,662 | 469 | 6 249 | 5,707 | 6,785 | 1,619 | 3,632 | 4,042 | 138 | 203 |
| Salmon | <i>0</i> | <i>0.0062</i> | <i>0.0008</i> | <i>0.0112</i> | <i>0.0123</i> | <i>0.012</i> | <i>0.0038</i> | <i>0.0071</i> | <i>0.0075</i> | <i>0.0006</i> | <i>0.0005</i> |
| Cisco | 289 | 141,386 | 14,528 | 31,258 | 113,620 | 131,662 | 48,163 | 168,988 | 158,141 | 32,267 | 32,604 |
| | <i>0.15</i> | <i>0.1880</i> | <i>0.0244</i> | <i>0.0562</i> | <i>0.2454</i> | <i>0.233</i> | <i>0.1127</i> | <i>0.3298</i> | <i>0.2945</i> | <i>0.1313</i> | <i>0.0724</i> |
| Coho Salmon | | | | 381 | 65 | 42 | 129 | 104 | 321 | 64 | 599 |
| | | | | <i>0.0007</i> | <i>0.0001</i> | <i>0.0001</i> | <i>0.0003</i> | <i>0.0002</i> | <i>0.0006</i> | <i>0.0003</i> | <i>0.0013</i> |
| Freshwater | | | | 0 | 19 | 0 | 1,180 | 1,729 | 1,168 | 95 | 0 |
| Drum | | | | <i>0</i> | <i>0</i> | <i>0</i> | <i>0.0028</i> | <i>0.0034</i> | <i>0.0022</i> | <i>0.0004</i> | <i>0</i> |

Appendix 2, Table 1 – cont.

| Species | 1938 | 1987 | 1991 | 1999 | 2000 | 2001 | 2005 | 2006 | 2007 | 2017 | 2022 |
|----------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Lake Trout | | | | 1 | 0 | 0 | 162 | 0 | 454 | 9 | 51 |
| | | | | <i>0</i> | <i>0</i> | <i>0</i> | <i>0.0004</i> | <i>0</i> | <i>0.0008</i> | <i>0</i> | <i>0.0001</i> |
| Lake Whitefish | 16 | 25,187 | 204 | 19,769 | 13,154 | 16,594 | 17,877 | 37,880 | 50,973 | 6,011 | 5,532 |
| | <i>0.008</i> | <i>0.0335</i> | <i>0.0003</i> | <i>0.0355</i> | <i>0.0284</i> | <i>0.0294</i> | <i>0.0418</i> | <i>0.0739</i> | <i>0.0949</i> | <i>0.0245</i> | <i>0.0123</i> |
| Largemouth | | | | 114 | 202 | 51 | 0 | 0 | 0 | 0 | 286 |
| Bass | | | | <i>0.0012</i> | <i>0.0004</i> | <i>0.0001</i> | <i>0</i> | <i>0</i> | <i>0</i> | <i>0</i> | <i>0.0006</i> |
| Muskellunge | | | | 34 | 8 | 56 | 110 | 0 | 0 | 0 | 0 |
| | | | | <i>0.0001</i> | <i>0</i> | <i>0.0016</i> | <i>0.0003</i> | <i>0</i> | <i>0</i> | <i>0</i> | <i>0</i> |
| Northern Pike | 184 | 20,965 | 26,116 | 5,408 | 12,402 | 14,336 | 1,547 | 14,894 | 4,231 | 3,968 | 8,785 |
| | <i>0.09</i> | <i>0.0279</i> | <i>0.0438</i> | <i>0.0097</i> | <i>0.0268</i> | <i>0.0254</i> | <i>0.0036</i> | <i>0.0291</i> | <i>0.0079</i> | <i>0.0161</i> | <i>0.0195</i> |
| Other | | | | 1,124 | 995 | 2,427 | 138 | 338 | 4,832 | 32 | 425 |
| | | | | <i>0.002</i> | <i>0.0021</i> | <i>0.0043</i> | <i>0.0003</i> | <i>0.0007</i> | <i>0.009</i> | <i>0.0001</i> | <i>0.0009</i> |
| Pink Salmon | 0 | 5.699 | 17,573 | 2,073 | 1,899 | 5,042 | 1,437 | 3,719 | 2,743 | 123 | 2,233 |
| | <i>0</i> | <i>0.0076</i> | <i>0.0295</i> | <i>0.0037</i> | <i>0.0041</i> | <i>0.0089</i> | <i>0.0034</i> | <i>0.0073</i> | <i>0.0051</i> | <i>0.0005</i> | <i>0.0050</i> |
| Pumpkinseed | | | | 161 | 0 | 0 | 175 | 0 | 1 | 220 | 59 |
| | | | | <i>0.0003</i> | <i>0</i> | <i>0</i> | <i>0.0004</i> | <i>0</i> | <i>0</i> | <i>0.0009</i> | <i>0.0001</i> |
| Rainbow Trout | 13 | 1,990 | 192 | 380 | 133 | 89 | 220 | 449 | 359 | 807 | 1,944 |
| | <i>0.007</i> | <i>0.0026</i> | <i>0.0003</i> | <i>0.0007</i> | <i>0.0003</i> | <i>0.0002</i> | <i>0.0005</i> | <i>0.0009</i> | <i>0.0007</i> | <i>0.0033</i> | <i>0.0043</i> |

Appendix 2, Table 1. -cont.

| Species | 1938 | 1987 | 1991 | 1999 | 2000 | 2001 | 2005 | 2006 | 2007 | 2017 | 2022 |
|----------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Rock Bass | 166 | 13,708 | 19,718 | 70 | 105 | 0 | 720 | 428 | 448 | 0 | 297 |
| | <i>0.08</i> | <i>0.0182</i> | <i>0.0311</i> | <i>0.0003</i> | <i>0.0002</i> | <i>0</i> | <i>0.0017</i> | <i>0.0008</i> | <i>0.0008</i> | <i>0</i> | <i>0.0007</i> |
| Round | | | | 516 | 1,651 | 0 | 1,348 | 1,416 | 1,603 | | |
| Whitefish | | | | <i>0.0009</i> | <i>0.0036</i> | <i>0</i> | <i>0.0032</i> | <i>0.0028</i> | <i>0.003</i> | | |
| Smallmouth | 3 | 2,779 | 9,497 | 1,188 | 3,235 | 3,653 | 4,216 | 5,322 | 4,030 | 3,073 | 12,129 |
| Bass | <i>0.002</i> | <i>0.0036</i> | <i>0.0159</i> | <i>0.0032</i> | <i>0.007</i> | <i>0.0065</i> | <i>0.0099</i> | <i>0.0104</i> | <i>0.0075</i> | <i>0.0125</i> | <i>0.0269</i> |
| Walleye | 102 | 25,602 | 26,435 | 9,898 | 17,064 | 39,568 | 32,134 | 38,743 | 60,733 | 13,963 | 29,101 |
| | <i>0.05</i> | <i>0.0340</i> | <i>0.0443</i> | <i>0.0178</i> | <i>0.0369</i> | <i>0.07</i> | <i>0.0752</i> | <i>0.0756</i> | <i>0.1131</i> | <i>0.0568</i> | <i>0.0646</i> |
| White Bass | | | | | 0 | 127 | 280 | 1,396 | 70 | | 0 |
| | | | | | <i>0</i> | <i>0.0002</i> | <i>0.0007</i> | <i>0.0027</i> | <i>0.0001</i> | | <i>0</i> |
| White Perch | | | | | 0 | 229 | 0 | 0 | 578 | | 0 |
| | | | | | <i>0</i> | <i>0.0004</i> | <i>0</i> | <i>0</i> | <i>0.0011</i> | | <i>0</i> |
| Yellow Perch | 2,465 | 316,436 | 91,019 | 62,646 | 86,098 | 91,120 | 84,097 | 118,214 | 125,391 | 39,241 | 69,009 |
| | <i>1.25</i> | <i>0.4207</i> | <i>0.1526</i> | <i>0.1126</i> | <i>0.186</i> | <i>0.1612</i> | <i>0.1968</i> | <i>0.2307</i> | <i>0.2335</i> | <i>0.1597</i> | <i>0.1532</i> |

Appendix 3, Table 1a. Estimated harvest per hour, number harvested, and effort (angler hours, trips, and days) of sport fishing for all sites combined on the St. Marys River (except Site 404, the Upper River), by all modes (non-charter) in 2022. Area covered is from the compensating works at the head of the rapids to DeTour (including Potagannissing Bay). Two standard errors in parentheses. N/A indicates the value could not be generated.

All Sites (except 404) - 2022

| Species | Harvest per hour | Month | | | | | | |
|-------------------------|------------------------|------------------|----------------|-------------------|------------------|------------------|------------------|--------------------|
| | | May | June | July | August | September | October | Season |
| Atlantic Salmon | 0.0133 (0.0309) | 226 (426) | 52 (104) | 2476 (1520) | 2149 (4) | 152 (183) | 756 (912) | 5811 (3149) |
| Channel Catfish | 0.0002 (0) | 0 (0) | 0 (0) | 0 (0) | 78 (0) | 0 (0) | 0 (0) | 78 (0) |
| Chinook Salmon | 0.0001 (0.0006) | 1 (3) | 0 (0) | 0 (0) | 0 (0) | 40 (60) | 0 (0) | 41 (63) |
| Coho Salmon | 0.0013 (0) | 0 (0) | 0 (0) | 0 (0) | 558 (0) | 0 (0) | 0 (0) | 558 (0) |
| Lake Trout | 0.0001 (0.0010) | 51 (106) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 51 (106) |
| Largemouth Bass | 0.0007 (0.0052) | 0 (0) | 0 (0) | 286 (532) | 0 (0) | 0 (0) | 0 (0) | 286 (532) |
| Lake Herring (Cisco) | 0.0744 (0.2647) | 0 (0) | 3927 (8495) | 28677 (18443) | 0 (0) | 0 (0) | 0 (0) | 32604 (26938) |
| Lake Whitefish | 0.0080 (0.0255) | 0 (0) | 262 (507) | 1062 (753) | 281 (0) | 56 (85) | 1852 (1255) | 3513 (2600) |
| Muskellunge | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Northern Pike | 0.0199 (0.1139) | 928 (1391) | 2968 (4452) | 2123 (2835) | 1322 (762) | 451 (1028) | 936 (1124) | 8728 (11593) |
| Pink Salmon | 0.0051 (0.0169) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 2233 (1720) | 0 (0) | 2233 (1720) |
| Pumpkinseed | 0.0001 (0.0012) | 59 (119) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 59 (119) |
| Rainbow Trout | 0.0040 (0.0087) | 1103 (397) | 508 (311) | 90 (115) | 0 (0) | 41 (50) | 16 (17) | 1758 (889) |
| Rock Bass | 0.0007 (0.0060) | 0 (0) | 0 (0) | 297 (607) | 0 (0) | 0 (0) | 0 (0) | 297 (607) |
| Smallmouth Bass | 0.0277 (0.1653) | 7025 (9725) | 1967 (2721) | 1560 (1962) | 963 (1388) | 325 (531) | 285 (501) | 12125 (16828) |
| Walleye | 0.0657 (0.2724) | 4856 (4018) | 7061 (9393) | 11540 (12460) | 3661 (0) | 809 (1201) | 866 (650) | 28793 (27722) |
| Yellow Perch | 0.1474 (0.6460) | 1858 (2575) | 904 (1890) | 2334 (2876) | 15459 (12024) | 18121 (20189) | 25949 (26193) | 64625 (65747) |
| Angler hours | | 46498 (30810) | 68149 N/A | 145126 (47318) | 75325 (5626) | 68464 N/A | 34775 (18030) | 438337 (101783) |
| Angler trips | | 9522 (6596) | 18827 N/A | 32358 (12498) | 16953 (1865) | 16498 (12111) | 7170 (3814) | 101329 (36885) |
| Angler Days | | 9088 (6449) | 15642 N/A | 31365 (12206) | 16552 (1769) | 16218 (11772) | 7126 (3797) | 95991 (35993) |

Appendix 3, Table 1b. Estimated harvest per hour, number harvested, and effort (angler hours, trips, and days) of sport fishing for all sites combined on the St. Marys River (including Site 404, the Upper River), by all modes (non-charter) in 2022. Area covered is from Point Iroquois downstream to DeTour (including Potagannissing Bay). Two standard errors in parentheses. N/A indicates the number could not be generated.

All Sites Incl 404 - 2022

| Species | Month Harvest per hour | May | June | July | August | September | October | Season |
|----------------------|------------------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|
| Atlantic Salmon | 0.0129 (0.0294) | 226 (426) | 52 (104) | 2476 (1520) | 2149 (4) | 152 (183) | 756 (912) | 5811 (3149) |
| Channel Catfish | 0.0002 (0) | 0 (0) | 0 (0) | 0 (0) | 78 (0) | 0 (0) | 0 (0) | 78 (0) |
| Chinook Salmon | 0.0005 (0.0021) | 1 (3) | 0 (0) | 138 (132) | 24 (27) | 40 (60) | 0 (0) | 203 (222) |
| Coho Salmon | 0.0013 (0.0005) | 0 (0) | 0 (0) | 41 (56) | 558 (0) | 0 (0) | 0 (0) | 599 (56) |
| Lake Trout | 0.0001 (0.0010) | 51 (106) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 51 (106) |
| Largemouth Bass | 0.0006 (0.0050) | 0 (0) | 0 (0) | 286 (532) | 0 (0) | 0 (0) | 0 (0) | 286 (532) |
| Lake Herring (Cisco) | 0.0724 (0.2515) | 0 (0) | 3927 (8495) | 28677 (18443) | 0 (0) | 0 (0) | 0 (0) | 32604 (26938) |
| Lake Whitefish | 0.0123 (0.0404) | 1224 (1059) | 1057 (1176) | 1062 (753) | 281 (0) | 56 (85) | 1852 (1255) | 5532 (4327) |
| Muskellunge | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Northern Pike | 0.0195 (0.1090) | 928 (1391) | 2968 (4452) | 2123 (2835) | 1322 (762) | 476 (1071) | 968 (1163) | 8785 (11675) |
| Other | 0.0009 (0.0034) | 0 (0) | 0 (0) | 0 (0) | 425 (369) | 0 (0) | 0 (0) | 425 (369) |
| Pink Salmon | 0.0050 (0.0161) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 2233 (1720) | 0 (0) | 2233 (1720) |
| Pumpkinseed | 0.0001 (0.0011) | 59 (119) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 59 (119) |
| Rainbow Trout | 0.0043 (0.0087) | 1246 (397) | 526 (311) | 90 (115) | 0 (0) | 66 (89) | 16 (17) | 1944 (929) |
| Rock Bass | 0.0007 (0.0057) | 0 (0) | 0 (0) | 297 (607) | 0 (0) | 0 (0) | 0 (0) | 297 (607) |
| Smallmouth Bass | 0.0269 (0.1572) | 7025 (9725) | 1971 (2729) | 1560 (1962) | 963 (1388) | 325 (531) | 285 (501) | 12129 (16836) |
| Walleye | 0.0646 (0.2618) | 4856 (4018) | 7259 (9561) | 11650 (12609) | 3661 (0) | 809 (1201) | 866 (650) | 29101 (28038) |
| Yellow Perch | 0.1532 (0.6643) | 4870 (6684) | 904 (1890) | 2334 (2876) | 15777 (12300) | 19167 (21201) | 25957 (26204) | 69009 (71154) |
| Angler hours | | 50091 | 70708 | 147792 | 76526 | 69631 | 35632 | 450380 |

| | | | | | | | |
|--------------|---------|-------|---------|--------|---------|---------|----------|
| | (33249) | N/A | (48804) | (6337) | N/A | (18714) | (107104) |
| Angler trips | 10570 | 19573 | 33146 | 17251 | 16865 | 7432 | 104837 |
| | (7101) | N/A | (12880) | (2141) | (12111) | (3948) | (38181) |
| Angler Days | 10136 | 16388 | 32108 | 16851 | 16585 | 7374 | 99441 |
| | (6954) | N/A | (12588) | (2044) | (11772) | (3928) | (37286) |

Appendix 3, Table 2. Estimated harvest per hour, number harvested, and effort (angler hours, trips, and days) of sport fishing for the area from Sweets Point to the Neebish Island Ferry (includes the Michigan and Ontario waters of Raber Bay, Munuscong Lake, and Neebish Channel), by all modes (non-charter) in 2022. Two standard errors in parentheses.

Site 207 - 2022

| Species | Month Harvest per hour | Month | | | | | | Season |
|----------------------|---|----------------|------------------|------------------|---------------|------------------|----------------|------------------|
| | | May | June | July | August | September | October | |
| Channel Catfish | 0.0009 (0) | 0 (0) | 0 (0) | 0 (0) | 78 (0) | 0 (0) | 0 (0) | 78 (0) |
| Lake Herring (Cisco) | 0.0122 (0.0440) | 0 (0) | 0 (0) | 1053 (1980) | 0 (0) | 0 (0) | 0 (0) | 1053 (01980) |
| Lake Whitefish | 0.0007 (0.0026) | 0 (0) | 0 (0) | 61 (116) | 0 (0) | 0 (0) | 0 (0) | 61 (116) |
| Muskellunge | 0.0000 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Northern Pike | 0.0260 (0.0588) | 15 (31) | 957 (1825) | 155 (261) | 499 (0) | 0 (0) | 622 (532) | 2248 (2648) |
| Smallmouth Bass | 0.0013 (0.0051) | 0 (0) | 0 (0) | 0 (0) | 38 (76) | 0 (0) | 72 (152) | 110 (229) |
| Walleye | 0.0820 (0.1391) | 144 (285) | 2912 (3823) | 2241 (2105) | 1779 (0) | 0 (0) | 24 (47) | 7100 (6260) |
| Yellow Perch | 0.1580 (0.1961) | 0 (0) | 90 (186) | 1307 (1557) | 7593 (0) | 2392 (3337) | 2298 (3745) | 13680 (8826) |
| Angler hours | | 7482 (8491) | 14882 (15583) | 28000 (10891) | 18771 (0) | 11959 (7881) | 5497 (2163) | 86591 (45008) |
| Angler trips | | 1098 (1353) | 3715 (4094) | 6008 (2876) | 4677 (0) | 3357 (2430) | 1432 (580) | 20287 (11333) |
| Angler Days | | 1098 (1353) | 3715 (4094) | 6008 (2876) | 4677 (0) | 3357 (2430) | 1432 (580) | 20287 (11333) |

Appendix 3, Table 3. Estimated harvest per hour, number harvested, and effort (angler hours, trips, and days) of sport fishing for Lake George to Green Point (includes Little Lake George, and the area from Bellview Marina to Stribling Point in Ontario, Canada), by all modes (non-charter) in 2022. Two standard errors in parentheses.

Site 208 - 2022

| Species | Month Harvest per hour | Month | | | | | | Season |
|-----------------|---|----------------|----------------|-----------------|----------------|------------------|----------------|------------------|
| | | May | June | July | August | September | October | |
| Atlantic Salmon | 0.0162 (0.0342) | 0 (0) | 0 (0) | 758 (777) | 240 (0) | 0 (0) | 0 (0) | 998 (777) |
| Chinook Salmon | 0.0000 (0.0001) | 1 (3) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1 (3) |
| Coho Salmon | 0.0090 (0) | 0 (0) | 0 (0) | 0 (0) | 558 (0) | 0 (0) | 0 (0) | 558 (0) |
| Largemouth Bass | 0.0046 (0.0234) | 0 (0) | 0 (0) | 286 (532) | 0 (0) | 0 (0) | 0 (0) | 286 (532) |
| Northern Pike | 0.0381 (0.1577) | 590 (866) | 704 (1067) | 824 (1145) | 0 (0) | 237 (510) | 0 (0) | 2355 (3588) |
| Smallmouth Bass | 0.0234 (0.1373) | 666 (1587) | 0 (0) | 433 (885) | 344 (650) | 0 (0) | 0 (0) | 1443 (3122) |
| Walleye | 0.0540 (0.2089) | 0 (0) | 664 (879) | 1145 (2270) | 0 (0) | 683 (1001) | 842 (603) | 3334 (4753) |
| Yellow Perch | 0.0890 (0.4119) | 1333 (1904) | 100 (203) | 0 (0) | 2518 (4662) | 1546 (2600) | 0 (0) | 5497 (9369) |
| Angler hours | | 4699 (3287) | 6918 (4397) | 19854 (6032) | 17915 (294) | 8740 (6859) | 3668 (1878) | 61794 (22748) |
| Angler trips | | 1049 (957) | 1447 (989) | 4541 (1682) | 2952 (92) | 1648 (1618) | 662 (386) | 12299 (5724) |
| Angler Days | | 1042 (946) | 1447 (989) | 4541 (1682) | 2949 (79) | 1499 (1370) | 662 (386) | 12140 (5453) |

Appendix 3, Table 4. Estimated harvest per hour, number harvested, and effort (angler hours, trips, and days) of sport fishing for the area from the Neebish Island Ferry to the rapids in Sault Ste. Marie (includes Lake Nicolet, the St. Marys River below the rapids and the area from the rapids to Bellview Marina in Ontario, Canada), by all modes (non-charter) in 2022. Two standard errors in parentheses.

Site 209 - 2022

| Species | Month | Harvest per hour | | | | | | |
|-----------------|--------------------|------------------|----------------|-----------------|---------------|-----------------|----------------|------------------|
| | May | June | July | August | September | October | Season | |
| Atlantic Salmon | 0.0811 (0.0987) | 25 (50) | 52 (104) | 1696 (713) | 1907 (0) | 152 (183) | 756 (912) | 4588 (1963) |
| Chinook Salmon | 0.0007 (0.0030) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 40 (60) | 0 (0) | 40 (60) |
| Lake Trout | 0.0009 (0.0053) | 51 (106) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 51 (106) |
| Lake Whitefish | 0.0610 (0.1248) | 0 (0) | 262 (507) | 1001 (636) | 281 (0) | 56 (85) | 1852 (1255) | 3452 (2484) |
| Northern Pike | 0.0162 (0.0426) | 206 (298) | 236 (348) | 207 (201) | 268 (0) | 0 (0) | 0 (0) | 917 (847) |
| Pink Salmon | 0.0393 (0.0857) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 2222 (1704) | 0 (0) | 2222 (1704) |
| Rainbow Trout | 0.0049 (0.0171) | 25 (55) | 144 (150) | 70 (86) | 0 (0) | 41 (50) | 0 (0) | 280 (341) |
| Smallmouth Bass | 0.0003 (0.0019) | 0 (0) | 0 (0) | 18 (38) | 0 (0) | 0 (0) | 0 (0) | 18 (38) |
| Walleye | 0.0439 (0.0515) | 502 (446) | 26 (50) | 360 (331) | 1471 (0) | 126 (199) | 0 (0) | 2485 (1025) |
| Yellow Perch | 0.0133 (0.0233) | 147 (180) | 0 (0) | 200 (284) | 408 (0) | 0 (0) | 0 (0) | 755 (464) |
| Angler hours | | 4377 (3532) | 5136 (3542) | 18105 (4119) | 13905 (0) | 10205 (6653) | 4857 (2047) | 56585 (19894) |
| Angler trips | | 692 (633) | 1050 (776) | 3471 (941) | 2774 (108) | 1712 (1170) | 980 (422) | 10680 (4052) |
| Angler Days | | 692 (633) | 1013 (737) | 3437 (937) | 2774 (108) | 1620 (1090) | 935 (405) | 10471 (3912) |

Appendix 3, Table 5. Estimated harvest per hour, number harvested, and effort (angler hours, trips, and days) of sport fishing for Potagannissing Bay (Michigan and Ontario), by all modes (non-charter), in 2022. Two standard errors in parentheses.

Site 210 - 2022

| Species | Month | May | June | July | August | September | October | Season |
|-----------------|--------------------|------------------|------------------|------------------|-----------------|------------------|------------------|-------------------|
| | Harvest per hour | | | | | | | |
| Atlantic Salmon | 0.0012 (0.0041) | 201 (376) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 201 (376) |
| Lake herring | 0.1729 (0.2421) | 0 (0) | 3927 (8495) | 25934 (13558) | 0 (0) | 0 (0) | 0 (0) | 29861 (22053) |
| Northern Pike | 0.0065 (0.0232) | 9 (0) | 79 (157) | 297 (465) | 349 (762) | 67 (140) | 314 (593) | 1115 (2116) |
| Pumpkinseed | 0.0003 (0.0013) | 59 (119) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 59 (119) |
| Rock Bass | 0.0017 (0.0067) | 0 (0) | 0 (0) | 297 (607) | 0 (0) | 0 (0) | 0 (0) | 297 (607) |
| Smallmouth Bass | 0.0601 (0.1454) | 6359 (8138) | 1967 (2721) | 1019 (868) | 512 (661) | 314 (507) | 213 (349) | 10384 (13244) |
| Walleye | 0.0722 (0.1384) | 4210 (3288) | 3459 (4642) | 4795 (4677) | 0 (0) | 0 (0) | 0 (0) | 12464 (12607) |
| Yellow Perch | 0.2559 (0.5032) | 378 (492) | 714 (1501) | 827 (1035) | 4872 (7243) | 13742 (13119) | 23651 (22447) | 44184 (45837) |
| Angler hours | | 22437 (11510) | 33028 (25499) | 58271 (17692) | 11877 (4868) | 30008 (21225) | 17041 (10292) | 172662 (91086) |
| Angler trips | | 4485 (2394) | 10871 (9696) | 13388 (4457) | 3175 (1557) | 7260 (4934) | 3198 (2013) | 42376 (25051) |
| Angler Days | | 4237 (2351) | 7736 (6664) | 12884 (4345) | 2796 (1477) | 7260 (4934) | 3198 (2013) | 38110 (21784) |

Appendix 3, Table 6. Estimated harvest per hour, number harvested, and effort (angler hours, trips, and days) of sport fishing for the Rapids in Sault Ste. Marie, Ontario, by all modes (non-charter) in 2022. Two standard errors in parentheses.

| Species | Site 403-2022 | | | | | | | |
|-----------------|--------------------|----------------|---------------|--------------|---------------|---------------|---------------|-----------------|
| | Harvest per hour | Month | | | | | | |
| | | May | June | July | August | September | October | Season |
| Atlantic Salmon | 0.0020 (0.0086) | 0 (0) | 0 (0) | 22 (29) | 2 (4) | 0 (0) | 0 (0) | 24 (33) |
| Pink Salmon | 0.0009 (0.0041) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 11 (16) | 0 (0) | 11 (16) |
| Rainbow Trout | 0.1212 (0.1420) | 1078 (342) | 364 (160) | 20 (29) | 0 (0) | 0 (0) | 16 (17) | 1478 (548) |
| Angler hours | | 3911 (1377) | 2316 (679) | 862 (493) | 1301 (464) | 1740 (442) | 2062 (405) | 12192 (3860) |
| Angler trips | | 1121 (443) | 622 (239) | 240 (162) | 281 (108) | 478 (174) | 569 (155) | 3312 (1281) |
| Angler Days | | 1105 (440) | 609 (237) | 240 (162) | 262 (104) | 440 (162) | 569 (155) | 3224 (1261) |

Appendix 3, Table 7. Estimated harvest per hour, number harvested, and effort (angler hours, trips, and days) of sport fishing for the St. Joseph Channel, Ontario, Canada, by all modes (non-charter) in 2022. Two standard errors in parentheses. N/A indicates the number could not be generated.

Site 405 - 2022

| Species | Month Harvest per hour | Month | | | | | | Season |
|----------------------|---|----------------|---------------|-----------------|---------------|------------------|----------------|------------------|
| | | May | June | July | August | September | October | |
| Lake Herring (Cisco) | 0.0348 (0.2431) | 0 (0) | 0 (0) | 1690 (2905) | 0 (0) | 0 (0) | 0 (0) | 1690 (2905) |
| Northern Pike | 0.0431 (0.2002) | 108 (196) | 992 (1055) | 640 (763) | 206 (0) | 147 (378) | 0 (0) | 2093 (2393) |
| Smallmouth Bass | 0.0035 (0.0163) | 0 (0) | 0 (0) | 90 (171) | 69 (0) | 11 (24) | 0 (0) | 170 (195) |
| Walleye | 0.0703 (0.2575) | 0 (0) | 0 (0) | 2999 (3077) | 411 (0) | 0 (0) | 0 (0) | 3410 (3077) |
| Yellow Perch | 0.0105 (0.1047) | 0 (0) | 0 (0) | 0 (0) | 68 (119) | 441 (1133) | 0 (0) | 509 (1252) |
| Angler hours | | 3592 (2613) | 5869 N/A | 20034 (8091) | 11556 (0) | 5812 N/A | 1650 (1245) | 48513 (11949) |
| Angler trips | | 1077 (816) | 1122 N/A | 4709 (2380) | 3094 (0) | 2044 (1784) | 330 (258) | 12375 (5238) |
| Angler Days | | 915 (726) | 1122 N/A | 4255 (2204) | 3094 (0) | 2044 (1784) | 330 (258) | 11759 (4972) |

Appendix 3, Table 8. Estimated harvest per hour, number harvested, and effort (angler hours, trips, and days) of sport fishing for the Upper River, from Iroquois Point downstream to the compensating works at the head of the rapids, including Waishkey Bay and Ashmun Bay. This site covers U.S. waters only.

Site 404 - 2022

| Species | Month | May | June | July | August | September | October | Season |
|-----------------|------------------|--------|--------|--------|--------|-----------|---------|--------|
| | Harvest per hour | | | | | | | |
| Chinook Salmon | 0.0134 | 0 | 0 | 138 | 24 | 0 | 0 | 162 |
| | (0.0232) | (0) | (0) | (132) | (27) | (0) | (0) | (159) |
| Coho Salmon | 0.0034 | 0 | 0 | 41 | 0 | 0 | 0 | 41 |
| | (0.0081) | (0) | (0) | (56) | (0) | (0) | (0) | (56) |
| Lake Whitefish | 0.1677 | 1224 | 795 | 0 | 0 | 0 | 0 | 2019 |
| | (0.2525) | (1059) | (668) | (0) | (0) | (0) | (0) | (1727) |
| Northern Pike | 0.0047 | 0 | 0 | 0 | 0 | 25 | 32 | 57 |
| | (0.0120) | (0) | (0) | (0) | (0) | (43) | (39) | (82) |
| Other | 0.0353 | 0 | 0 | 0 | 425 | 0 | 0 | 425 |
| | (0.0540) | (0) | (0) | (0) | (369) | (0) | (0) | (369) |
| Rainbow Trout | 0.0154 | 143 | 18 | 0 | 0 | 25 | 0 | 186 |
| | (0.0058) | (0) | (0) | (0) | (0) | (40) | (0) | (40) |
| Smallmouth Bass | 0.0003 | 0 | 4 | 0 | 0 | 0 | 0 | 4 |
| | (0.0012) | (0) | (8) | (0) | (0) | (0) | (0) | (8) |
| Walleye | 0.0256 | 0 | 198 | 110 | 0 | 0 | 0 | 308 |
| | (0.0461) | (0) | (167) | (149) | (0) | (0) | (0) | (316) |
| Yellow Perch | 0.3640 | 3012 | 0 | 0 | 318 | 1046 | 8 | 4384 |
| | (0.7905) | (4109) | (0) | (0) | (276) | (1012) | (11) | (5407) |
| Angler hours | | 3593 | 2559 | 2666 | 1201 | 1167 | 857 | 12043 |
| | | (2439) | (1305) | (1486) | (711) | (215) | (684) | (6840) |
| Angler trips | | 1048 | 746 | 788 | 299 | 367 | 261 | 3508 |
| | | (505) | (371) | (382) | (275) | (0) | (134) | (1667) |
| Angler Days | | 1048 | 746 | 743 | 299 | 367 | 248 | 3450 |
| | | (505) | (371) | (382) | (275) | (0) | (131) | (1664) |

Appendix 4, Table 1a. Estimated catch including legal and nonlegal release plus harvest for all sites combined on the St. Marys River (except Site 404, the Upper River) in 2022. Two standard errors are in parentheses. N/A indicates the number could not be generated.

Site All Sites (except 404)- 2022

| Species | Month | May | June | July | August | September | October | Season |
|----------------------|----------------|---------|---------|---------|--------|-----------|---------|---------|
| | Catch per hour | | | | | | | |
| Atlantic Salmon | 0.0192 | 228 | 53 | 3333 | 3768 | 180 | 852 | 8414 |
| | (0.0408) | (426) | (104) | (2354) | (88) | (212) | (965) | (4149) |
| Channel Catfish | 0.0025 | 204 | 786 | 0 | 79 | 10 | 0 | 1079 |
| | (0.0196) | (410) | (1566) | (0) | (0) | (15) | (0) | (1992) |
| Chinook Salmon | 0.0003 | 3 | 0 | 0 | 0 | 99 | 51 | 152 |
| | (0.0017) | (6) | (0) | (0) | (0) | (105) | (62) | (173) |
| Coho Salmon | 0.0014 | 0 | 0 | 0 | 566 | 9 | 30 | 605 |
| | (0.0006) | (0) | (0) | (0) | (13) | (16) | (32) | (61) |
| Freshwater Drum | 0.0009 | 0 | 0 | 205 | 0 | 191 | 0 | 396 |
| | (0.0084) | (0) | (0) | (442) | (0) | (407) | (0) | (850) |
| Lake Trout | 0.0006 | 52 | 0 | 0 | 229 | 0 | 0 | 281 |
| | (0.0053) | (106) | (0) | (0) | (430) | (0) | (0) | (536) |
| Largemouth Bass | 0.0052 | 0 | 0 | 573 | 1 | 12 | 1707 | 2292 |
| | (0.0512) | (0) | (0) | (1063) | (0) | (22) | (4131) | (5216) |
| Lake Herring (Cisco) | 0.0943 | 0 | 5499 | 35858 | 0 | 0 | 0 | 41356 |
| | (0.3420) | (0) | (11893) | (22919) | (0) | (0) | (0) | (34812) |
| Lake Whitefish | 0.0094 | 0 | 263 | 1175 | 282 | 66 | 2332 | 4118 |
| | (0.0297) | (0) | (507) | (795) | (0) | (101) | (1623) | (3026) |
| Northern Pike | 0.0728 | 3684 | 7992 | 8041 | 7697 | 2526 | 1983 | 31924 |
| | (0.3028) | (5232) | (11471) | (7207) | (0) | (3656) | (3252) | (30818) |
| Other | 0.0126 | 1100 | 549 | 1820 | 230 | 1831 | 0 | 5529 |
| | (0.0988) | (2397) | (1125) | (2759) | (486) | (3286) | (0) | (10053) |
| Pink Salmon | 0.0103 | 0 | 0 | 0 | 0 | 4058 | 457 | 4515 |
| | (0.0474) | (0) | (0) | (0) | (0) | (4534) | (292) | (4826) |
| Pumpkinseed | 0.0006 | 180 | 0 | 0 | 76 | 0 | 0 | 256 |
| | (0.0026) | (267) | (0) | (0) | (0) | (0) | (0) | (267) |
| Rainbow Trout | 0.0087 | 2182 | 1334 | 112 | 14 | 102 | 81 | 3825 |
| | (0.0211) | (740) | (1053) | (143) | (28) | (116) | (70) | (2150) |
| Rock Bass | 0.0021 | 0 | 83 | 784 | 68 | 0 | 0 | 935 |
| | (0.0135) | (0) | (170) | (1081) | (119) | (0) | (0) | (1370) |
| Smallmouth Bass | 0.1082 | 15459 | 7274 | 13528 | 7216 | 3455 | 479 | 47412 |
| | (0.4960) | (17552) | (8341) | (14834) | (4939) | (4185) | (632) | (50482) |
| Walleye | 0.0940 | 5302 | 9747 | 16136 | 7451 | 1690 | 888 | 41214 |
| | (0.3749) | (4424) | (12728) | (16777) | (500) | (3069) | (662) | (38159) |

Appendix 4, Table 1a. -cont.

| Species | Catch per hour | May | June | July | August | September | October | Season |
|----------------|-------------------------------|------------------|-----------------|-------------------|------------------|------------------|------------------|--------------------|
| Yellow perch | 0.5154 (2.1361) | 4882 (6310) | 8118 (12897) | 22170 (17134) | 40169 (25068) | 77417 (86271) | 73165 (69742) | 225921 (217422) |
| Angler hours | | 46498 (30810) | 68149 N/A | 145126 (47318) | 75325 (5626) | 68464 N/A | 34775 (18030) | 438337 (101783) |
| Angler trips | | 9522 (6596) | 18827 N/A | 32358 (12498) | 16953 (1865) | 16498 (12111) | 7170 (3814) | 101329 (36885) |
| Angler Days | | 9088 (6449) | 15642 N/A | 31365 (12206) | 16552 (1769) | 16218 (11772) | 7126 (3797) | 95991 (35993) |

Appendix 4, Table 1b. Estimated catch including legal and nonlegal release plus harvest for all sites combined on the St. Marys River in 2022. Area covered is from Point Iroquois downstream to DeTour (including Potagannissing Bay). Two standard errors are in parentheses. N/A indicates the number could not be generated.

All Sites (Incl 404) - 2022

| Species | Catch per hour | Month | | | | | | Season |
|-----------------|----------------------|------------------|-----------------|------------------|----------------|----------------|----------------|------------------|
| | | May | June | July | August | September | October | |
| Atlantic Salmon | 0.0187 (0.0387) | 228 (426) | 53 (104) | 3333 (2354) | 3768 (88) | 180 (212) | 852 (965) | 8414 (4149) |
| Channel Catfish | 0.0024 (0.0186) | 204 (410) | 786 (1566) | 0 (0) | 79 (0) | 10 (15) | 0 (0) | 1079 (1992) |
| Chinook Salmon | 0.0007 (0.0031) | 3 (6) | 0 (0) | 138 (132) | 24 (27) | 99 (105) | 51 (62) | 314 (331) |
| Coho Salmon | 0.0014 (0.0011) | 0 (0) | 0 (0) | 41 (56) | 566 (13) | 9 (16) | 30 (32) | 647 (117) |
| Freshwater Drum | 0.0009 (0.0079) | 0 (0) | 0 (0) | 205 (442) | 0 (0) | 191 (407) | 0 (0) | 396 (850) |
| Lake Trout | 0.0006 (0.0050) | 52 (106) | 0 (0) | 0 (0) | 229 (430) | 0 (0) | 0 (0) | 281 (536) |
| Largemouth Bass | 0.0051 (0.0487) | 0 (0) | 0 (0) | 573 (1063) | 1 (0) | 12 (22) | 1707 (4131) | 2292 (5216) |
| Lake Herring | 0.0918 (0.3250) | 0 (0) | 5499 (11893) | 35858 (22919) | 0 (0) | 0 (0) | 0 (0) | 41356 (34812) |
| Lake Whitefish | 0.0157 (0.0493) | 1854 (1345) | 1304 (1361) | 1217 (846) | 282 (0) | 66 (101) | 2332 (1623) | 7055 (5276) |
| Muskellunge | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) |
| Northern Pike | 0.0712 (0.2883) | 3684 (5232) | 7992 (11471) | 8041 (7207) | 7697 (0) | 2600 (3656) | 2035 (3317) | 32051 (30883) |
| Other | 0.0132 (0.0973) | 1100 (2397) | 549 (1125) | 1820 (2759) | 655 (856) | 1831 (3286) | 0 (0) | 5955 (10422) |
| Pink Salmon | 0.0100 (0.0451) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 4058 (4534) | 457 (292) | 4515 (4826) |
| Pumpkinseed | 0.0006 (0.0025) | 180 (267) | 0 (0) | 0 (0) | 76 (0) | 0 (0) | 0 (0) | 256 (267) |
| Rainbow Trout | 0.0089 (0.0204) | 2325 (740) | 1352 (1053) | 112 (143) | 14 (28) | 127 (155) | 81 (70) | 4011 (2190) |
| Rock Bass | 0.0021 (0.0128) | 0 (0) | 83 (170) | 784 (1081) | 68 (119) | 0 (0) | 0 (0) | 935 (1370) |
| Smallmouth Bass | 0.1057 (0.4731) | 15459 (17552) | 7296 (8375) | 13663 (14963) | 7216 (4939) | 3468 (4205) | 482 (636) | 47584 (50670) |

Appendix 4, Table 1b, -cont.

| Species | Catch per hour | May | June | July | August | September | October | Season |
|----------------|-------------------------------|------------------|-----------------|-------------------|------------------|------------------|------------------|--------------------|
| Walleye | 0.0923 (0.3598) | 5302 (4424) | 9945 (12895) | 16246 (16925) | 7451 (500) | 1728 (3129) | 888 (662) | 41560 (38534) |
| Yellow perch | 0.5509 (2.2827) | 15015 (20274) | 8136 (12931) | 22225 (17219) | 44138 (28553) | 84094 (94211) | 74488 (71299) | 248096 (244487) |
| Angler hours | | 50091 (33249) | 70708 N/A | 147792 (48804) | 76526 (6337) | 69631 N/A | 35632 (18714) | 450380 (107104) |
| Angler trips | | 10570 (7101) | 19573 N/A | 33146 (12880) | 17251 (2141) | 16865 (12111) | 7432 (3948) | 104837 (38181) |
| Angler Days | | 10136 (6954) | 16388 N/A | 32108 (12588) | 16851 (2044) | 16585 (11772) | 7374 (3928) | 99441 (37286) |

Appendix 4, Table 2. Estimated catch including legal and nonlegal release plus harvest for Site 207. Two standard errors are in parentheses.

Site 207 - 2022

| Species | Month Catch per hour | Month | | | | | | Season |
|----------------------|-------------------------------------|----------------|------------------|------------------|---------------|------------------|----------------|------------------|
| | | May | June | July | August | September | October | |
| Channel Catfish | 0.0026 (0.0063) | 144 (285) | 0 (0) | 0 (0) | 79 (0) | 0 (0) | 0 (0) | 223 (285) |
| Freshwater Drum | 0.0029 (0.0119) | 0 (0) | 0 (0) | 62 (130) | 0 (0) | 191 (407) | 0 (0) | 253 (537) |
| Lake Herring (Cisco) | 0.0122 (0.0440) | 0 (0) | 0 (0) | 1054 (1980) | 0 (0) | 0 (0) | 0 (0) | 1054 (1980) |
| Lake Whitefish | 0.0007 (0.0026) | 0 (0) | 0 (0) | 62 (116) | 0 (0) | 0 (0) | 0 (0) | 62 (116) |
| Northern Pike | 0.1268 (0.2562) | 449 (696) | 3282 (5997) | 2834 (2458) | 2428 (0) | 1145 (1665) | 838 (716) | 10976 (11532) |
| Other | 0.0049 (0.0187) | 0 (0) | 0 (0) | 0 (0) | 230 (486) | 191 (353) | 0 (0) | 420 (840) |
| Pumpkinseed | 0.0009 (0) | 0 (0) | 0 (0) | 0 (0) | 76 (0) | 0 (0) | 0 (0) | 76 (0) |
| Smallmouth Bass | 0.0609 (0.1165) | 0 (0) | 2325 (4175) | 280 (427) | 2231 (0) | 193 (412) | 240 (232) | 5269 (5245) |
| Walleye | 0.1750 (0.2550) | 289 (387) | 4550 (5746) | 5698 (5297) | 4591 (0) | 0 (0) | 24 (47) | 15152 (11478) |
| Yellow Perch | 0.4920 (0.6834) | 433 (854) | 4466 (7509) | 6000 (4524) | 19038 (0) | 7083 (9405) | 5580 (8466) | 42600 (30758) |
| Angler hours | | 7482 (8491) | 14882 (15583) | 28000 (10891) | 18771 (0) | 11959 (7881) | 5497 (2163) | 86591 (45008) |
| Angler trips | | 1098 (1353) | 3715 (4094) | 6008 (2876) | 4677 (0) | 3357 (2430) | 1432 (580) | 20287 (11333) |
| Angler Days | | 1098 (1353) | 3715 (4094) | 6008 (2876) | 4677 (0) | 3357 (2430) | 1432 (580) | 20287 (11333) |

Appendix 4, Table 3. Estimated catch including legal and nonlegal release plus harvest for Site 208. Two standard errors are in parentheses.

Site 208 - 2022

| Species | Catch per hour | Month | | | | | | Season |
|-----------------|----------------------|----------------|----------------|-----------------|----------------|----------------|----------------|------------------|
| | | May | June | July | August | September | October | |
| Atlantic Salmon | 0.0511 (0.0683) | 0 (0) | 0 (0) | 1516 (1555) | 1641 (0) | 0 (0) | 0 (0) | 3157 (1555) |
| Chinook Salmon | 0.0000 (0.0003) | 3 (6) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 3 (6) |
| Coho Salmon | 0.0090 (0) | 0 (0) | 0 (0) | 0 (0) | 559 (0) | 0 (0) | 0 (0) | 559 (0) |
| Freshwater Drum | 0.0023 (0.0137) | 0 (0) | 0 (0) | 143 (313) | 0 (0) | 0 (0) | 0 (0) | 143 (313) |
| Lake Trout | 0.0037 (0.0189) | 0 (0) | 0 (0) | 0 (0) | 229 (430) | 0 (0) | 0 (0) | 229 (430) |
| Largemouth Bass | 0.0095 (0.0477) | 0 (0) | 0 (0) | 573 (1063) | 1 (0) | 12 (22) | 0 (0) | 585 (1085) |
| Northern Pike | 0.0821 (0.2970) | 1347 (1749) | 1500 (2100) | 1219 (1655) | 234 (0) | 731 (1158) | 43 (94) | 5074 (6756) |
| Other | 0.0096 (0.0541) | 494 (1014) | 101 (218) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 594 (1232) |
| Pink Salmon | 0.0227 (0.1127) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1404 (2563) | 0 (0) | 1404 (2563) |
| Smallmouth Bass | 0.0628 (0.3162) | 1383 (3176) | 0 (0) | 1439 (2167) | 583 (1125) | 477 (725) | 0 (0) | 3882 (7194) |
| Walleye | 0.0723 (0.2707) | 0 (0) | 1239 (1647) | 1146 (2270) | 229 (500) | 992 (1127) | 864 (614) | 4469 (6158) |
| Yellow Perch | 0.1375 (0.6862) | 1334 (1904) | 101 (203) | 0 (0) | 2518 (4662) | 4520 (8794) | 22 (47) | 8495 (15610) |
| Angler hours | | 4699 (3287) | 6918 (4397) | 19854 (6032) | 17915 (294) | 8740 (6859) | 3668 (1878) | 61794 (22748) |
| Angler trips | | 1049 (957) | 1447 (989) | 4541 (1682) | 2952 (92) | 1648 (1618) | 662 (386) | 12299 (5724) |
| Angler Days | | 1042 (946) | 1447 (989) | 4541 (1682) | 2949 (79) | 1499 (1370) | 662 (386) | 12140 (5453) |

Appendix 4, Table 4. Estimated catch including legal and nonlegal release plus harvest for Site 209. Two standard errors are in parentheses.

Site 209 - 2022

| Species | Catch per hour | Month | | | | | | Season |
|-----------------|----------------------|----------------|----------------|-----------------|---------------|-----------------|----------------|------------------|
| | | May | June | July | August | September | October | |
| Atlantic Salmon | 0.0848 (0.1011) | 26 (50) | 53 (104) | 1771 (741) | 1974 (0) | 180 (212) | 793 (905) | 4796 (2011) |
| Chinook Salmon | 0.0007 (0.0030) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 41 (60) | 0 (0) | 41 (60) |
| Lake Trout | 0.0009 (0.0053) | 52 (106) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 52 (106) |
| Lake Whitefish | 0.0712 (0.1446) | 0 (0) | 263 (507) | 1113 (679) | 282 (0) | 56 (85) | 2316 (1606) | 4031 (2877) |
| Northern Pike | 0.0281 (0.0660) | 595 (609) | 355 (413) | 338 (290) | 302 (0) | 0 (0) | 0 (0) | 1589 (1313) |
| Other | 0.0003 (0.0018) | 0 (0) | 0 (0) | 19 (37) | 0 (0) | 0 (0) | 0 (0) | 19 (37) |
| Pink Salmon | 0.0398 (0.0857) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 2250 (1705) | 0 (0) | 2250 (1705) |
| Rainbow Trout | 0.0124 (0.0426) | 26 (55) | 553 (628) | 71 (86) | 14 (28) | 41 (50) | 0 (0) | 704 (847) |
| Smallmouth Bass | 0.0155 (0.0664) | 432 (452) | 0 (0) | 419 (818) | 0 (0) | 0 (0) | 25 (51) | 876 (1321) |
| Walleye | 0.0487 (0.0611) | 503 (446) | 26 (50) | 472 (513) | 1601 (0) | 153 (206) | 0 (0) | 2755 (1215) |
| Yellow Perch | 0.0192 (0.0245) | 192 (176) | 0 (0) | 201 (284) | 680 (0) | 14 (27) | 0 (0) | 1086 (487) |
| Angler hours | | 4377 (3532) | 5136 (3542) | 18105 (4119) | 13905 (0) | 10205 (6653) | 4857 (2047) | 56585 (19894) |
| Angler trips | | 692 (633) | 1050 (776) | 3471 (941) | 2774 (108) | 1712 (1170) | 980 (422) | 10680 (4052) |
| Angler Days | | 692 (633) | 1013 (737) | 3437 (937) | 2774 (108) | 1620 (1090) | 935 (405) | 10471 (3912) |

Appendix 4, Table 5. Estimated catch including legal and nonlegal release plus harvest for Site 210. Two standard errors are in parentheses.

Site 210 - 2022

| Species | Month | May | June | July | August | September | October | Season |
|----------------------|-----------------------|------------|-------------|-------------|---------------|------------------|----------------|---------------|
| | Catch per hour | | | | | | | |
| Atlantic Salmon | 0.0012 | 202 | 0 | 0 | 0 | 0 | 0 | 202 |
| | (0.0041) | (376) | (0) | (0) | (0) | (0) | (0) | (376) |
| Channel Catfish | 0.0049 | 60 | 786 | 0 | 0 | 0 | 0 | 845 |
| | (0.0186) | (126) | (1566) | (0) | (0) | (0) | (0) | (1692) |
| Lake Herring (Cisco) | 0.2187 | 0 | 5499 | 32268 | 0 | 0 | 0 | 37767 |
| | (0.3126) | (0) | (11893) | (16582) | (0) | (0) | (0) | (28475) |
| Northern Pike | 0.0304 | 429 | 869 | 1218 | 2095 | 225 | 419 | 5255 |
| | (0.0608) | (758) | (961) | (1117) | (1552) | (363) | (790) | (5541) |
| Other | 0.0222 | 606 | 393 | 1196 | 0 | 1640 | 0 | 3835 |
| | (0.0725) | (1383) | (794) | (1494) | (0) | (2932) | (0) | (6603) |
| Pumpkinseed | 0.0010 | 180 | 0 | 0 | 0 | 0 | 0 | 180 |
| | (0.0029) | (267) | (0) | (0) | (0) | (0) | (0) | (267) |
| Rock Bass | 0.0040 | 0 | 79 | 612 | 0 | 0 | 0 | 691 |
| | (0.0111) | (0) | (165) | (844) | (0) | (0) | (0) | (1009) |
| Smallmouth Bass | 0.1989 | 13643 | 4734 | 9588 | 3562 | 2596 | 214 | 34338 |
| | (0.3804) | (13923) | (3866) | (9960) | (3813) | (2735) | (349) | (34646) |
| Walleye | 0.0826 | 4510 | 3932 | 5821 | 0 | 0 | 0 | 14264 |
| | (0.1591) | (3591) | (5285) | (5619) | (0) | (0) | (0) | (14495) |
| Yellow Perch | 0.9624 | 2385 | 3552 | 10808 | 17619 | 64249 | 67564 | 166176 |
| | (1.7851) | (2312) | (5184) | (7466) | (20406) | (66002) | (61229) | (162599) |
| Angler hours | | 22437 | 33028 | 58271 | 11877 | 30008 | 17041 | 172662 |
| | | (11510) | (25499) | (17692) | (4868) | (21225) | (10292) | (91086) |
| Angler trips | | 4485 | 10871 | 13388 | 3175 | 7260 | 3198 | 42376 |
| | | (2394) | (9696) | (4457) | (1557) | (4934) | (2013) | (25051) |
| Angler Days | | 4237 | 7736 | 12884 | 2796 | 7260 | 3198 | 38110 |
| | | (2351) | (6664) | (4345) | (1477) | (4934) | (2013) | (21784) |

Appendix 4, Table 6. Estimated catch including legal and nonlegal release plus harvest for Site 403. Two standard errors are in parentheses.

Site 403 - 2022

| Species | Month | Catch per hour | | | | | | |
|-----------------|--------------------|----------------|---------------|--------------|---------------|---------------|---------------|-----------------|
| | May | June | July | August | September | October | Season | |
| Atlantic Salmon | 0.0212 (0.0537) | 0 (0) | 0 (0) | 46 (58) | 153 (88) | 0 (0) | 59 (61) | 258 (207) |
| Channel Catfish | 0.0008 (0.0040) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 10 (15) | 0 (0) | 10 (15) |
| Chinook Salmon | 0.0089 (0.0276) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 58 (45) | 51 (62) | 109 (106) |
| Coho Salmon | 0.0038 (0.0159) | 0 (0) | 0 (0) | 0 (0) | 8 (13) | 9 (16) | 30 (32) | 47 (61) |
| Lake Whitefish | 0.0021 (0.0085) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 9 (16) | 16 (17) | 26 (33) |
| Pink Salmon | 0.0706 (0.1445) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 404 (265) | 457 (292) | 861 (558) |
| Rainbow Trout | 0.2517 (0.3106) | 2157 (684) | 729 (321) | 42 (58) | 0 (0) | 61 (66) | 81 (70) | 3069 (1199) |
| Angler hours | | 3911 (1377) | 2316 (679) | 862 (493) | 1301 (464) | 1740 (442) | 2062 (405) | 12192 (3860) |
| Angler trips | | 1121 (443) | 622 (239) | 240 (162) | 281 (108) | 478 (174) | 569 (155) | 3312 (1281) |
| Angler Days | | 1105 (440) | 609 (237) | 240 (162) | 262 (104) | 440 (162) | 569 (155) | 3224 (1261) |

Appendix 4, Table 7. Estimated catch including legal and nonlegal release plus harvest for Site 405. Two standard errors are in parentheses.

Site 405 - 2022

| Species | Month | | | | | | | |
|-------------------------|--------------------|----------------|----------------|-----------------|--------------|----------------|----------------|------------------|
| | Catch per hour | May | June | July | August | September | October | Season |
| Largemouth Bass | 0.0352 (0.3457) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1707 (4131) | 1707 (4131) |
| Lake Herring (Cisco) | 0.0523 (0.3647) | 0 (0) | 0 (0) | 2535 (4357) | 0 (0) | 0 (0) | 0 (0) | 2535 (4357) |
| Northern Pike | 0.1861 (0.6049) | 864 (1420) | 1986 (2000) | 2433 (1686) | 2639 (0) | 425 (470) | 683 (1652) | 9029 (7227) |
| Other | 0.0136 (0.1123) | 0 (0) | 56 (113) | 606 (1228) | 0 (0) | 0 (0) | 0 (0) | 661 (1342) |
| Rainbow Trout | 0.0011 (0.0087) | 0 (0) | 52 (104) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 52 (104) |
| Rock Bass | 0.0050 (0.0302) | 0 (0) | 3 (5) | 172 (237) | 68 (119) | 0 (0) | 0 (0) | 244 (361) |
| Smallmouth Bass | 0.0628 (0.1737) | 0 (0) | 216 (300) | 1801 (1462) | 840 (0) | 189 (314) | 0 (0) | 3046 (2076) |
| Walleye | 0.0943 (0.4028) | 0 (0) | 0 (0) | 3000 (3077) | 1031 (0) | 544 (1736) | 0 (0) | 4574 (4813) |
| Yellow Perch | 0.1559 (0.6667) | 537 (1064) | 0 (0) | 5162 (4860) | 314 (0) | 1551 (2042) | 0 (0) | 7564 (7967) |
| Angler hours | | 3592 (2613) | 5869 (N/A) | 20034 (8091) | 11556 (0) | 5812 (N/A) | 1650 (1245) | 48513 (11949) |
| Angler trips | | 1077 (816) | 1122 (N/A) | 4709 (2380) | 3094 (0) | 2044 (1784) | 330 (258) | 12375 (5238) |
| Angler Days | | 915 (726) | 1122 (N/A) | 4255 (2204) | 3094 (0) | 2044 (1784) | 330 (258) | 11759 (4972) |

Appendix 4, Table 8. Estimated catch including legal and nonlegal release plus harvest for Site 404. Two standard errors are in parentheses.

Site 404 - 2022

| Species | Harvest per hour | Month | | | | | | Season |
|-----------------|---------------------|------------------|----------------|----------------|----------------|----------------|----------------|------------------|
| | | May | June | July | August | September | October | |
| Chinook Salmon | 0.0134 (0.0232) | 0 (0) | 0 (0) | 138 (132) | 24 (27) | 0 (0) | 0 (0) | 162 (159) |
| Coho Salmon | 0.0034 (0.0081) | 0 (0) | 0 (0) | 41 (56) | 0 (0) | 0 (0) | 0 (0) | 41 (56) |
| Lake Whitefish | 0.2439 (0.3289) | 1854 (1345) | 1041 (854) | 42 (50) | 0 (0) | 0 (0) | 0 (0) | 2937 (2249) |
| Northern Pike | 0.0105 (0.0095) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 74 (0) | 53 (65) | 127 (65) |
| Other | 0.0353 (0.0540) | 0 (0) | 0 (0) | 0 (0) | 425 (369) | 0 (0) | 0 (0) | 425 (369) |
| Rainbow Trout | 0.0154 (0.0058) | 143 (0) | 18 (0) | 0 (0) | 0 (0) | 25 (40) | 0 (0) | 186 (40) |
| Smallmouth Bass | 0.0144 (0.0274) | 0 (0) | 22 (34) | 135 (129) | 0 (0) | 13 (20) | 3 (4) | 173 (188) |
| Walleye | 0.0287 (0.0548) | 0 (0) | 198 (167) | 110 (149) | 0 (0) | 38 (59) | 0 (0) | 346 (375) |
| Yellow Perch | 1.8414 (3.9569) | 10133 (13964) | 18 (35) | 55 (84) | 3969 (3485) | 6677 (7940) | 1323 (1557) | 22175 (27065) |
| Angler hours | | 3593 (2439) | 2559 (1305) | 2666 (1486) | 1201 (711) | 1167 (215) | 857 (684) | 12043 (6840) |
| Angler trips | | 1048 (505) | 746 (371) | 788 (382) | 299 (275) | 367 (0) | 261 (134) | 3508 (1667) |
| Angler Days | | 1048 (505) | 746 (371) | 743 (382) | 299 (275) | 367 (0) | 248 (131) | 3450 (1664) |