

MINNESOTA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FISH AND WILDLIFE
SECTION OF FISHERIES

COMPLETION REPORT LAKE SUPERIOR SUMMER CREEL SURVEY 2021

by

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Abstract

Anglers fished for 216,487 hours in the Minnesota waters of Lake Superior in 2021 as measured in the summer access-based creel survey and charter census. For the same time frame sampled between 2020 and 2021, which was from late June through early October, effort in 2021 was within 3% of the effort in 2020. Observations in 2020 indicated that fishing effort was relatively high before late June, therefore fishing effort was likely to be high during both years of the Covid-19 pandemic. Fishing effort in 2021 was also the highest observed in almost 30 years. Nearly all effort in 2021, 98.5%, was from boaters. Overall, 68% of effort occurred in the Lower Shore area from Duluth to Two Harbors.

Minnesota-based anglers on Lake Superior generally target salmonines, which includes Lake Trout *Salvelinus namaycush* of both lean and siscowet strains, Coho Salmon *Oncorhynchus kisutch*, Chinook Salmon *O. tshawytscha*, and Rainbow Trout *O. mykiss* of both steelhead and kamloops strains. In 2021, anglers caught 55,679 salmonines, of which 43,637 were harvested. Anglers caught 68% more salmonines than was observed in 2020, and most of the harvested fish were Lake Trout. Salmonid catch and harvest rates in 2021 were 0.2579 and 0.2016 fish per angler hour, respectively, an increase of 34-27% from 2020.

Anglers caught 32,852 lean Lake Trout (leans) and 1,974 siscowet Lake Trout (siscowet) and harvested 26,546 leans and 1,888 siscowets. Lean Lake Trout accounted for 59% of all salmonines caught and 61% of all salmonines harvested. The harvested leans were 83% wild fish, which is slightly lower than wild rate of 88% in 2020. In MN-1 near Duluth, stocked fish comprised 25% of the harvest. Anglers kept 0.1226 and released 0.0291 leans per angler hour. The total catch rate for leans was 3% higher than in 2020. The harvested leans were 21.8 inches long on average.

Anglers also caught Coho, Chinook, and Pink Salmon *O. gorbuscha*, and Rainbow, Brown *Salmo trutta*, and Brook Trout *Salvelinus fontinalis* in 2021. Anglers harvested 8,918 Coho Salmon at 0.0466 fish per angler hour, which was substantially higher than the 2020 rate of 0.0153 fish per angler hour. Anglers harvested 2,084 Chinook Salmon at 0.0100 fish per angler hour, which was 27% less than in 2020. Harvested Chinook Salmon were 22.0 inches on average in 2021, which similar to 2020. Anglers caught 18% more salmon in the Upper Shore than in the Lower Shore. Anglers caught 1,974 Pink Salmon. Anglers also kept 63 and released 952 steelhead, and kept 44 and released 156 other salmonines which included Brook Trout, Brown Trout, kamloops, and possibly Atlantic Salmon *Salmo salar*. Anglers kept 3 Northern Pike, 358 Walleye, 105 Cisco *Coregonus artedii* (local name is lake herring), 6 Lake Whitefish *Coregonus clupeaformis* and released 313 Walleye.

Fifty-five charter captains were licensed to fish in Minnesota waters of Lake Superior in 2021; Ten captains reported no trips and two captains fished only in St. Louis Bay. Beginning in 2018, charter results are reported as a separate angler type in the annual Lake Superior summer creel survey report.

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Introduction

Lake Superior and the tributaries that are available to anadromous fishes offer unique habitats that support fisheries, which contributes to the diversity of angling opportunities in Minnesota. Several salmonines, including Lake Trout *Salvelinus namaycush*, Rainbow Trout *Oncorhynchus mykiss*, Coho Salmon *O. kisutch*, and Chinook Salmon *O. tshawytscha*, provide recreational fisheries along the North Shore of Lake Superior throughout the year.

During the first half of the 20th century, Lake Trout was the mainstay of the Lake Superior sport fishery and, along with Cisco *Coregonus artedii* (local name is lake herring) supported an important commercial fishery. By the late 1940s the Lake Trout harvest began to decline as a result of overfishing (Hansen et al. 1995). During the 1950s the Sea Lamprey *Petromyzon marinus* became established in Lake Superior and preyed heavily on Lake Trout. Lake Trout populations declined precipitously, due to mortality from Sea Lamprey, and both sport and commercial fisheries collapsed. By the early 1960s, effective control of Sea Lamprey had been achieved. Minnesota and other states and provinces began stocking salmonids to rehabilitate the depleted Lake Trout stocks and to introduce new strains of salmon species to diversify the fishery. Efforts to follow a recovery plan (Hansen 1996) were successful and Minnesota suspended stocking of Lake Trout in 2016. The state of Minnesota has monitored the recreation fishery in the Minnesota waters of Lake Superior annually since 1969.

This current report presents results from Minnesota's 2021 Lake Superior summer creel survey and charter fishing census. The Covid-19 pandemic resulted in reduced fish-handling in close quarters, the season started one week earlier than normal due to weather conditions, and the rest of the survey was similar to previous years. Charter captains reported their entire year's effort and catch as required by law (State Statute 97C.311). In addition, data were not collected from Wisconsin-based anglers who fished in Minnesota waters of Lake Superior. Therefore, only the components of Minnesota-based private sport fishing and charter fishing in Minnesota waters for the full year are included in this report.

Lake Superior Management Plans (Schreiner et al. 1995; Schreiner et al. 2006; Goldsworthy et al. 2016) have suggested periodic diet sampling for salmonines to evaluate changes in the fish community and the impact of limited forage on the salmonine populations. Lake Trout, a primary predator species in Lake Superior, historically persisted on a forage base of lake herring and other coregonines. Establishment of Rainbow Smelt *Osmerus mordax* (smelt) and over-fishing of Cisco stocks led to the replacement of coregonines by smelt as the primary forage of Lake Trout (Dryer et al. 1965). Conner et al. (1993) found that smelt was the most important forage item for various salmonines in Minnesota waters of Lake Superior. Smelt abundance declined in the early 1980s (Geving 1998) and remains low; however Lake Trout diet is comprised mostly of smelt in May (Blankenheim 2018), most likely due to their high concentrations in warmer waters and to the lack of Cisco recruitment in recent years (Goldsworthy et al. 2016). Diet samples were collected in 2021 and were processed independently from this survey.

Methods

This report for summer Lake Superior fishing is comprised of two primary components, a subcomponent of the charter fishery, and a component of estimates for the unsampled May-

June fishery. The primary components include 1) a survey of private sport anglers, which is access-based and follows a stratified random statistical design and in 2021 was conducted from May 22 through October 3, and 2) a census of chartered anglers throughout the year. The subcomponent includes a survey of chartered trips to determine specific catch characteristics that are not reported in the charter census. The basic statistical method and formulas for the private sport angler survey are described by Bindman and Mach (1997), and more detail of the design of the Lake Superior summer creel survey is described by Halpern (1995a, b). The private sport angling survey includes private sport boaters, charter captains' personal trips, and shore anglers. The charter census includes data that are supplied by charter captains in monthly fishing reports. These data are required of charter captains and include location and time of fishing, number of anglers and lines, number of each species that were kept or released, and the number of fish with clipped fins that indicate stocking. Being a census, no observable measurement error exists with these data; however, reporting error does exist and is not readily calculated, is presumed to be unbiased, and is ignored in this report. In previous years, charter trips were included in the creel survey, which is somewhat redundant and may increase variance estimates. Beginning in 2018 as a subcomponent to the charter census, charter trips are also surveyed to determine angler demographics and fish attributes such as length and weight, number of Sea Lamprey wounds, and occurrence of clipped fins. The survey and census components included only anglers who fished in Lake Superior (Figure 1) and excluded angling that occurred in the St. Louis Estuary or in tributaries. The 2020 survey began in late May (May 22) and ended when the Lake Trout season ended (October 3). May data were included in the May-June, or June, period and October data were included in the October-September, or September, period. The creel clerks visited the stations and groups of stations, or Clusters, that are described in Table 1. Clusters 1 and 2 are located closer to Duluth to the Southwest and comprise the Lower Shore, whereas Clusters 3 and 4 are to the Northeast and comprise the Upper Shore. Two clerks work on the creel survey, one in each Shore area. Halpern (2003) describes the general mechanics of the creel survey in more detail. The sampling design was revised in 2017 when sampling effort was dropped from two locations. One very small public access was dropped at Tofte in the Taconite Harbor area due to low use and high travel times to the access. Also, Harbor Cove was dropped from the Harbor Cove/Lakehead Marina station due to the owner's removal of permission to use the property. The counts from Taconite Harbor and Lakehead Marina, were adjusted based on previous estimates of effort at the dropped accesses. Taconite Harbor received 88% of the effort at Station 9 in 2014-2015 and Harbor Cove Marina received 50% of the effort at Station 2 from 2014 through 27 July 2017. Also in 2020, sampling effort was reduced but not eliminated at the Twin Points public access due to decreased fishing in recent years.

Age distribution of Lake Trout caught in the Lake Superior summer creel survey was determined using an age-length key based on all aged Lake Trout captured in assessments from 2015 through May 2019. References to creel survey numbers are from Reeves (2020) for 2019 and Reeves (2021) for 2020. Results from the creel survey and charter census are reported separately within tables in this report and are also combined to produce attributes of total catch and effort. Figures generally include combined data, except for angler effort and for charter-specific attributes of number of captains and their number of trips.

Results and Discussion

Fishing Effort

Private sport fishing effort in Minnesota from Minnesota-based anglers was estimated from 438 activity counts for the Lower Shore and 360 activity counts for the Upper Shore in 2021 (Table 2). Effort along the North Shore was measured on 115 out of 135 days during the surveyed portion of the season. Private sport anglers fished for 147,889 hours (Table 3) in 14,910 trips, which lasted 4.24 hours on average and contained 2.17 anglers on average. Charter anglers fished for 68,598 hours in 2,492 trips, which lasted 5.37 hours on average and contained 5.13 anglers on average (Table 4). Wisconsin-based private sport angler effort in Minnesota waters of Lake Superior was 2,059 hours (WIDNR data).

The 2020 survey season was abbreviated and is not directly comparable to the 2021 survey season. However, the period from June 24 through early October was sampled in both years and the effort in 2021 was just 3% less than the same period in 2020, indicating that 2020 was also a very productive year for anglers. Overall measured effort increased by 18% from 2019 to 2021 (Figure 2) and was higher than at any time since 1994. Survey design changes in 1994 eliminated sampling locations where anglers caught few salmonines. Since 1994, effort from Minnesota-based anglers has varied from 138,522 to 216,487 hours (Figure 2). Effort in the Lower Shore area accounted for 57% of the private sport angling effort from boats (Table 5), 82% of the fishing effort from shore, and 90% of the fishing effort from charters (Table 6) in 2021. Overall, at least 68% of fishing effort came from the Lower Shore area. The distribution of effort across areas and periods shifted from near Duluth in June to a broader swath of the lake in July and August and then to the McQuade-Two Harbors for the September-October period.

Shore angling continued to comprise a small fraction of summer angling effort on Lake Superior. Shoreline anglers fished for 3,148 hours in 2021 (Table 3), compared to 2,054 hours in 2020 and 2,973 hours in 2019. Lake Superior boat anglers accounted for 98.5% of the effort and shore anglers accounted for 1.5% of the effort.

Charter captains chartered from 0 to 171 trips in 2021 (Figure 9), which was very similar to 2020. Ten captains reported no trips and two captains reported trips only in the St. Louis River Estuary. Seven captains chartered over 100 trips in 2021. Similar to 2020, some captains obtained licenses in early 2021 and then chartered no trips for the entire year.

Catch and Catch Rates

Salmonines

Salmonines include trout and salmon species. Private sport anglers caught 38,615 salmonines (Table 7) and charter anglers caught 17,064 salmonines (Table 8), for a total catch of 55,679 salmonines in 2021 (Table 9). The salmonine catch in 2021 was 38% greater than the catch of 40,380 salmonines in 2019. Anglers released 22% of their catch (Table 9). Wisconsin-based sport anglers caught 157 salmonines (Table 10).

Regarding catch rates of salmonines in units of fish per hour, private sport anglers caught 0.2611 fish and kept 0.1856 fish per hour (Table 11). For the entire season, Charter anglers caught 0.2488 fish and harvested 0.2359 fish per hour (Table 12). In a more typical year, catch rates are lower for private sport anglers than for charter anglers. Overall, in 2021, anglers caught 0.2572 fish and harvested 0.2016 fish per hour (Table 13). These rates were 7-17% higher than in 2019 (Figure 3). Most of the increase was due to higher salmon catches in 2021.

Catch rates were considerably higher in 2021 than in 2020, however the early season was not sampled in 2020 and local reports indicated that salmon catch rates were high early in the season.

Lean Lake Trout

Private sport anglers caught 21,772 and kept 16,020 lean Lake Trout, whereas charter anglers caught 11,080 and kept 10,526 lean Lake Trout in 2021. Overall, anglers caught 32,852 fish, which was 44% more than in 2019 and indicates substantial fishing success for anglers in 2021. Compared to the previous 10-year average of 24,312 fish, anglers caught at least 35% more fish in 2021. The harvest in 2021 was similar to harvests in 2015-2019. Anglers also released 19% of their catch, or 6,306 fish (Table 5). Anglers harvested at least 26,546 fish, which was 42% more than in 2019. Lean Lake Trout accounted for 59% of all salmonines caught and 61% of all salmonines harvested. Seventy percent of the harvested lean Lake Trout were from the Lower Shore area. Overall, anglers caught 0.1518 and kept 0.1226 fish per hour. Among private sport parties, 66% caught one or more, 50% caught two or more, and 36% caught at least three fish per trip (Table 14). Success rates were much higher for charter angling parties; 97% of parties caught at least one fish, 95% caught at least two fish, and 87% caught at least three fish (Table 15). Overall success rate was noticeably higher in 2021 than in 2020 or 2019.

Wisconsin-based private sport anglers kept an additional 124 lean Lake Trout in Minnesota waters in 2021 (WI DNR data) for a rate of 0.0556 fish per hour. No Wisconsin data was available in 2020, but the 2021 harvest rate was similar to the 2019 harvest rate of 0.0591 lean Lake Trout per hour.

Lean Lake Trout lengths were somewhat similar between private sport anglers and charter anglers in 2021 (Table 16 and 17). The average harvested fish length was 22.3 inches for private sport anglers and 21.1 inches for charter anglers. Over 75% of the fish were 17.9-26.3 inches long. Overall, mean length and length distributions were similar to harvested fish in 2019 and 2020. Private sport anglers released 41% of fish that were ≥ 25 inches long (Tables 16 & 18) and charter anglers released 2% of fish that were ≥ 25 inches long (Tables 17 & 19). The high release rates by private sport anglers on Lake Superior is similar to 2020 and is otherwise unprecedented. Private sport anglers kept fish that were 3.26 pounds on average (Table 20) and charter anglers kept fish that were 2.78 pounds on average (Table 21). Average weights differed by angler type in the Upper Shore; private sport anglers kept fish that were 0.71 pounds heavier on average than charter-caught fish, which is different than in 2020, when private sport-caught fish were 0.66 pounds lighter than charter-caught fish on average. Yield for lean Lake Trout was 52,267 pounds by private sport anglers and 29,237 pounds by charter anglers. The total yield of 81,503 pounds in 2021 was 16% greater than in 2019.

The age distribution of all harvested lean Lake Trout was slightly older for private sport anglers (Table 25) than for charter anglers (Table 26). Age seven and eight year old fish comprised 45% of the anglers' harvest (Table 27). Seven year old fish were the most abundant year class in the catch overall. Each age class from six through nine years comprised at least 10% of the harvest (Table 27), also indicating that anglers caught proportionately more six-year-old fish than in 2019 or 2020. Older Lake Trout, at least nine years old, made up 42% of

the harvest by number, which is slightly less than in 2020 or 2019, which also indicates a higher proportion of younger fish that are recruiting to the fishery. The presence of many adult year classes indicates that the Lake Trout population is rehabilitated and the proportion of older age classes is fairly stable; however, the proportion of younger fish appear to be increasing again after a short downturn.

In 2021, creel clerks checked 969 Lake Trout and observed no fin clips on 83% of harvested fish, which indicates that the fish were wild and not stocked. By area, wild fish comprised 75% of fish from the Duluth area, 97% from the McQuade-Two Harbors area, and 100% from both the Twin Points-Tofte and Grand Marais areas. Minnesota stocked Lake Trout through 2015 in the Lower Shore area and through 2003 in the Upper Shore area. Wisconsin has stocked Lake Trout through 2021, Stocked fish from the 2009 through 2014 year classes were poorly represented in the recreational fishery in 2021, which indicates that Minnesota stocking produced few of the fish that anglers harvested.

Siscowet

Siscowet, a deepwater form of Lake Trout, have generally contributed little to the sport fishery, except for a slight increase from 2015 through 2018. Anglers caught 1,974 siscowet in 2021, which was more than in the past two years and slightly less than 2,157 fish in 2018 and 2,268 fish in 2017. Wisconsin-based sport anglers harvested seven siscowet in 2021.

Coho Salmon

Private sport anglers caught 7,705 and kept 6,551 Coho Salmon, whereas charter anglers caught 2,391 and kept 2,367 fish in 2021. Overall, anglers caught 10,096 fish, which was the second highest catch on record and only 2,185 fish less than the record year in 2019. Anglers also released at least 1,178 fish, or 12% of their catch (Table 9). Coho Salmon accounted for 18% of all salmonines caught and 20% of all salmonines harvested. Fifty-one percent of the fish were caught in the Upper Shore area. Harvest rates were 0.0443 fish per hour for private sport anglers and 0.0307 fish per hour for charter anglers, or 0.0412 fish per hour overall. Among private sport parties, 25% caught one or more, 11.6% caught two or more, and 4.9% caught at least three fish per trip (Table 14). Success rates were slightly lower for charter angling parties; only 17.5% of parties caught one fish and 9.2% caught more than one fish. Seasonally, Coho Salmon are first caught in the Lower Shore area and then later in the Upper Shore area; this pattern was repeated in 2021. Anglers kept Coho Salmon that were 18.6 inches long on average (Tables 16 and 17), which is smaller than average length of 21.1 inches in 2020. Average weight was lower in the Lower Shore, at 1.59 pounds, than in the Upper Shore, at 2.20 pounds in 2021 (Tables 20 and 21). Wisconsin-based sport anglers harvested an additional twelve Coho Salmon in Minnesota waters of Lake Superior in 2021 (Table 10). Coho Salmon grow as they move up the shoreline toward Grand Marais in the summer. Anglers harvested 17,166 pounds of Coho Salmon in 2021 (Table 24), which is one of the best years on record. The harvest of Coho Salmon has varied considerably among years (Figure 5), which reflects the naturally fluctuating year-class strength for Coho Salmon in Lake Superior. Coho Salmon were last stocked in 2006 by the Michigan DNR and last stocked in Minnesota waters in 1974; thus, all Coho Salmon caught in Lake Superior are naturally reproduced.

Chinook Salmon

Private sport anglers caught 1,105 and kept 1,056 Chinook Salmon, whereas charter anglers caught 1,059 fish and kept all but 31 fish in 2021. Overall, anglers caught 2,164 fish, which is 25% less fish than in 2020 and 25% less than the average of 2,871 fish over the previous 10 years. Chinook Salmon accounted for 4% of all salmonines caught and 5% of all salmonines harvested. More fish, 58%, were from the Lower Shore than from the Upper Shore. Private sport anglers kept 0.0071 fish per hour and charter anglers kept 0.0150 fish per hour, or 0.0096 fish per hour overall, which is lower than the rate of 0.0153 fish per hour in 2020. Among private sport parties, 7% caught one or more, 1.7% caught two or more, and 0.1% caught at least three fish per trip (Table 14). Success rates were higher for charter angling parties; 27.2% of parties caught at least one fish, 8.3% caught at least two fish, and 1.5% caught at least three fish. Eleven Chinook Salmon were reported as harvested by Wisconsin-based sport anglers fishing the Minnesota waters of Lake Superior in 2021 (Table 10). Anglers kept fish that were 22.0 inches long on average (Tables 16 and 17), which is about the same size as fish caught in 2020. Anglers harvested 8,038 pounds of Chinook Salmon in 2021 (Table 24), which is 30-32% less than in 2019 and 2020. Creel clerks examined 68 fish for stocking clips and observed 2 clipped fish, or a stocked rate of 3% of the fish, which indicates that Chinook Salmon stocking in other jurisdictions contributes minimally to catches in Minnesota.

Steelhead Rainbow Trout

Minnesota-based anglers caught 1,015 steelhead Rainbow Trout in 2021 (Table 9), which was 19% more than in 2020. Steelhead catches in 2021 were highest in the Grand Marais area. The location of highest catches changes from year to year, indicating that steelhead movement patterns vary from year to year. Anglers kept 63 steelhead in the summer of 2021, despite the ban on harvest of steelhead in the Minnesota waters of Lake Superior. Wisconsin-based sport anglers fishing the Minnesota waters of Lake Superior harvested three steelhead. Anglers sometimes mis-identify smaller steelhead as Coho Salmon.

Pink Salmon

Minnesota-based anglers caught 7,378 Pink Salmon *Oncorhynchus gorbuscha* in 2021 (Table 9). Pink Salmon catches vary considerably over time, ranging from 0 fish in the late 1980s to the current high catch in 2021. Pink Salmon reproduce naturally in Lake Superior (Schreiner et al. 2006) and the fluctuations in catch reflect the fluctuations in reproductive success of Pink Salmon along the North Shore. The fish were smaller at 15.2 inches in 2021 than an average of 16.8 inches in 2020, and anglers kept 55% of their catch in 2021 compared to 88% in 2020.

Other Species

Anglers catch a few other fish species as well during the summer, generally in low numbers. Catch data for the infrequently-caught salmonines were combined and reported as 200 other salmonines (Table 9). The combined species include harvests of 22 Brown Trout *Salmo trutta* and 22 Kamloops Rainbow Trout, and releases of 60 Brook Trout *Salvelinus fontinalis* and 96 unknown salmon, at least one of which was reported by an angler as an Atlantic Salmon *Salmo salar*. Anglers caught these other salmonines at a rate of 0.0009 fish per hour. Anglers also caught 105 Cisco, 6 Lake Whitefish, and 3 Northern Pike in the lake. Anglers also caught 671 Walleyes and kept 358 Walleyes. Total Walleye yield was 1,322 pounds.

Wisconsin-based anglers harvested 8 Walleye, 4 Channel Catfish, and 10 Black Crappie.

Summary

The Lake Superior creel survey continues to provide essential information on the fishery in Minnesota waters of Lake Superior. This is vital to the future management of Lake Superior fish stocks and for coordinated management among Lake Superior fisheries management agencies. The 2020 fishing year produced the most effort since 1994, and also substantial catches of Lake Trout and Coho Salmon. Overall, the Covid-19 pandemic of 2020 and 2021 was associated with relatively high fishing effort on Lake Superior, maybe even the highest observed in almost 30 years. The Lake Trout are now mostly wild (83%), not clipped, and this is especially true in the Upper Shore where 100% of the harvested fish were wild. The percentage of stocked Lake Trout near Duluth was higher in the past couple of years, potentially due to continued stocking by Wisconsin.

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COMPLETION REPORT
LAKE SUPERIOR SUMMER CREEL SURVEY
2021

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Lake Superior Fisheries Office

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Table 1. Creel survey clusters and stations in the 2021 Lake Superior summer creel survey.

Shore	Cluster	Station	Description
Lower	1-Duluth	1	Charter Dock
		2	Lakehead Boat Basin
		3	Rice's Point Landing
	2-McQuade to Two Harbors	4	McQuade Public Access
		5	Knife River-Knife River Marina
		6	Two Harbors-Agate Bay Access
Upper	3-Twin Points to Tofte	7	Twin Points Access
		8	Silver Bay Access and Marina
		9	Taconite Harbor, Tofte
	4-Grand Marais to Hovland	10	Grand Marais Access and Marina
		11	Devil Track and Brule Rivers, Hovland Access

Table 2. Frequency of clerk visits and number of activity counts and interviews, by day type, cluster, shore area, and total area, for each cluster and day type in the 2021 Lake Superior summer creel survey.

District ²	Cluster ³	Day type	Days Visited	Activity Counts	Days			Interviews ¹		
					Boat	Shore	Charter	Boat	Shore	Charter
MN-1	1	Weekday	26	108	11	0	21	20	0	53
		Weekend	19	84	13	0	12	40	0	43
		Total	45	192	24	0	33	60	0	96
MN-1	2	Weekday	31	150	23	9	3	170	23	3
		Weekend	23	96	19	7	3	180	3	3
		Total	54	246	42	16	6	350	26	6
MN-2	3	Weekday	29	100	23	2	3	81	3	3
		Weekend	20	70	17	0	1	83	3	1
		Total	49	170	40	2	4	164	6	4
MN-3	4	Weekday	28	110	21	13	14	121	22	19
		Weekend	22	80	17	14	6	86	9	7
		Total	50	190	38	27	20	207	31	26
Lower	1,2	Weekday	57	258	34	9	24	190	23	29
		Weekend	42	180	32	7	15	220	3	31
		Total	99	438	66	16	39	410	26	60
Upper	3,4	Weekday	57	210	44	15	17	202	25	4
		Weekend	42	150	34	14	7	169	12	7
		Total	99	360	78	29	24	371	37	11
Total		Weekday	75	468	55	21	37	392	48	33
		Weekend	40	330	38	16	19	389	15	38
		Total	115	798	93	32	32	781	63	71

¹ angling parties refused to be interviewed. The clerk was excluded from ½ of Station 2 in 2021.

² Great Lakes Fishery Commission Statistical Districts

³ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

Table 3. Fishing effort (angler hours¹) for private sport and shore anglers by angler type, location, and shore area in the 2021 Lake Superior summer creel survey². SE in parentheses.

District ³	Cluster ⁴	Value	Boat ⁵					Shore ⁶				
			June	July	Aug	Sept	Summer	June	July	Aug	Sept	Summer
MN-1	1	Hours	6,088	4,689	1,595	2,074	14,446	0	0	0	0	0
		SE	(1,372)	(614)	(616)	(456)	(1,687)	0	0	0	0	0
MN-1	2	Hours	16,294	16,659	13,161	22,022	68,136	189	137	956	1,303	2,584
		SE	(3,735)	(3,561)	(3,022)	(4,412)	(7,431)	(80)	(75)	(229)	(250)	(356)
MN-2	3	Hours	6,341	19,034	9,183	8,195	42,754	0	38	0	25	63
		SE	(1,445)	(3,418)	(1,922)	(1,827)	(4,561)	0	(27)	0	(25)	(37)
MN-3	4	Hours	2,076	6,407	6,717	4,204	19,405	126	155	85	134	501
		SE	(667)	(1,201)	(1,059)	(845)	(1,929)	(38)	(52)	(47)	(45)	(91)
Lower	1,2	Hours	22,381	21,348	14,756	24,097	82,582	189	137	956	1,303	2,584
		SE	(3,979)	(3,614)	(3,084)	(4,435)	(7,621)	(80)	(75)	(229)	(250)	(356)
Upper	3,4	Hours	8,417	25,441	15,900	12,400	62,158	126	194	85	159	564
		SE	(1,592)	(3,623)	(2,195)	(2,013)	(4,953)	(38)	(58)	(47)	(51)	(98)
Total		Hours	30,799	46,789	30,657	36,496	144,740	315	331	1,041	1,461	3,148
		SE	(4,285)	(5,117)	(3,785)	(4,871)	(9,088)	(88)	(95)	(233)	(255)	(370)

¹ Estimates were rounded to the nearest whole number.

² Wisconsin-based sport anglers fished an additional 2,059 hours in the Minnesota waters of Lake Superior in 2021.

³ Great Lakes Fishery Commission Statistical Districts

⁴ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

⁵ Includes private boaters and unchartered fishing trips with charter captains.

⁶ All shore fishing in Cluster 1 occurs in the St. Louis Estuary, not in Lake Superior, and is not included.

Table 4. Fishing effort (angler hours¹) for charter anglers and for all anglers, by location and shore area, in the 2021 Lake Superior summer creel survey². SE in parentheses.

District ³	Cluster ⁴	Value	Charter					All			Total	
			June	July	Aug	Sept	Summer	June	July	Aug	Sept	Summer
MN-1	1	Hours	24,028	14,947	11,265	8,573	58,813	30,116	19,636	12,860	10,647	73,259
		SE	0	0	0	0	0	(1,372)	(614)	(616)	(456)	(1,687)
MN-1	2	Hours	603	799	747	556	2,705	17,086	17,595	14,864	23,881	73,425
		SE	0	0	0	0	0	(3,814)	(3,637)	(3,251)	(4,662)	(7,751)
MN-2	3	Hours	1,042	1,524	1,210	1,002	4,778	7,383	20,596	10,393	9,222	47,595
		SE	0	0	0	0	0	(1,445)	(3,445)	(1,922)	(1,852)	(4,592)
MN-3	4	Hours	845	556	248	653	2,302	3,047	7,118	7,051	4,991	22,208
		SE	0	0	0	0	0	(705)	(1,252)	(1,106)	(890)	(2,020)
Lower	1,2	Hours	24,631	15,746	12,012	9,129	61,518	47,201	37,231	27,724	34,528	146,685
		SE	0	0	0	0	0	(4,054)	(3,688)	(3,308)	(4,684)	(7,932)
Upper	3,4	Hours	1,887	2,080	1,458	1,655	7,080	10,431	27,715	17,444	14,213	69,802
		SE	0	0	0	0	0	(1,608)	(3,666)	(2,218)	(2,055)	(9,009)
Total		Hours	26,518	17,826	13,470	10,784	68,598	57,632	64,946	45,168	48,742	216,487
Total		SE	0	0	0	0	0	(4,361)	(5,200)	(3,983)	(5,115)	(9,385)

¹Estimates were rounded to the nearest whole number.

² Wisconsin-based sport anglers fished an additional 2,059 hours in the Minnesota waters of Lake Superior in 2021.

³ Great Lakes Fishery Commission Statistical Districts

⁴ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

Table 5. Monthly distribution of fishing effort for private sport boat and shore anglers by angler type, location, and shore area as a percentage of angler hours in the 2021 Lake Superior summer creel survey. SE in parentheses.

District ¹	Cluster ²	Station	Boat ³					Shore ⁴				
			June	July	Aug	Sept	Summer	June	July	Aug	Sept	Summer
MN-1	1		19.8	10	5.2	5.7	10	0	0	0	0	0
		1	0	0	0	0	0	0	0	0	0	
		2	5.4	4.1	2.4	2.3	3.6	0	0	0	0	0
		3	14.4	5.9	2.8	3.4	6.4	0	0	0	0	0
MN-1	2		52.9	35.6	42.9	60.3	47.1	60	41.5	91.8	89.1	82.1
		4	25.8	9.2	11.4	19	15.7	16.1	15.9	12.8	2.3	8.6
		5	12.3	10.7	12.7	11.9	11.8	0	0	0	0	0
		6	14.7	15.7	18.8	29.5	19.6	43.9	25.6	79	86.9	73.5
MN-2	3		20.6	40.7	30	22.5	29.5	0	11.6	0	1.7	2
		7	3.6	10	5.2	6.1	6.6	0	0	0	0	0
		8	13.7	19	16.5	9.2	14.9	0	5.7	0	0	0.6
		9	3.3	11.7	8.2	7.2	8.1	0	5.9	0	1.7	1.4
MN-3	4		6.7	13.7	21.9	11.5	13.4	40	46.9	8.2	9.2	15.9
		10	5.2	9	16.2	10.4	10.1	40	46.9	8.2	9.2	15.9
		11	1.5	4.7	5.7	1.2	3.4	0	0	0	0	0
Lower	1,2		72.7	45.6	48.1	66	57.1	60	41.5	91.8	89.1	82.1
Upper	3,4		27.3	54.4	51.9	34	42.9	40	58.5	8.2	10.9	17.9

¹ Great Lakes Fishery Commission Statistical Districts

² Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

³ Excludes charter fishing effort and includes personal charter captain's trips.

⁴ All shore fishing in Cluster 1 occurs in the St. Louis Estuary, not in Lake Superior, and is not included.

Table 6. Monthly distribution of fishing effort for charter anglers and for all anglers, by angler type, location, and total area, as a percentage of angler hours in the 2021 Lake Superior summer creel survey. SE in parentheses.

District ¹	Cluster ²	Station	Charter ³					All				
			June	July	Aug	Sept	Summer	June	July	Aug	Sept	Summer
MN-1	1		90.6	83.8	83.6	79.5	85.7	52.3	30.2	28.5	21.8	33.8
		1	55.6	56.8	51.7	48.7	54.1	25.6	15.6	15.4	10.8	17.1
		2	34.5	26.2	31.7	29	30.9	18.7	10.2	11.1	8.1	12.2
		3	0.6	0.8	0.2	1.7	0.7	8	4.4	2	2.9	4.5
MN-1	2		2.3	4.5	5.5	5.2	3.9	29.6	27.1	32.9	49	33.9
		4	0	0	0	0	0	13.9	6.7	8.1	14.3	10.6
		5	2.2	4.3	5.5	5.2	3.9	7.6	8.9	10.3	10	9.1
		6	0.1	0.2	0	0	0.1	8.1	11.5	14.6	24.7	14.2
MN-2	3		3.9	8.5	9	9.3	7	12.8	31.7	23	18.9	22
		7	0	0	0	0	0	1.9	7.2	3.5	4.5	4.4
		8	0.8	3.8	3.8	3.7	2.6	7.7	14.7	12.3	7.7	10.8
		9	3.1	4.7	5.2	5.6	4.3	3.2	9.8	7.1	6.7	6.8
MN-3	4		3.2	3.1	1.8	6.1	3.4	5.3	11	15.6	10.2	10.3
		10	3.2	3.1	1.8	6.1	3.4	4.5	7.6	11.7	9.4	8
		11	0	0	0	0	0	0.8	3.4	3.9	0.9	2.2
Lower	1,2		92.9	88.3	89.1	84.7	89.7	81.9	57.3	61.4	70.8	67.8
Upper	3,4		7.1	11.6	10.8	15.4	10.3	18.1	42.7	38.6	29.1	32.2

¹ Great Lakes Fishery Commission Statistical Districts

² Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

³ Does not include charter fishing effort that was based in Wisconsin.

Table 7. Catch by species, location, and shore area for private sport boat and shore anglers in the 2021 Lake Superior summer creel survey. SE in parentheses.

District ¹	Cluster ²	Fate	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other ³ Salmonines	Total Salmonines	Walleye	
MN-1	1	Kept	914	4	27	0	31	0	0	976	33	
			(561)	(7)	(33)	0	(46)	0	0	(564)	(33)	
		Released	38	0	0	0	0	0	0	0	38	291
			(50)	0	0	0	0	0	0	0	(50)	(269)
Total	952	4	27	0	31	0	0	0	1,014	324		
	(563)	(7)	(33)	0	(46)	0	0	0	(566)	(271)		
MN-1	2	Kept	8,735	1,859	313	28	259	807	0	12,001	39	
			(3,980)	(1,006)	(149)	(40)	(206)	(500)	0	(4,144)	(46)	
		Released	2,383	599	40	263	86	255	0	3,626	19	
			(1,514)	(320)	(43)	(134)	(64)	(243)	0	(1,574)	(27)	
Total	11,118	2,458	353	291	345	1,062	0	15,627	58			
	(4,258)	(1,056)	(155)	(140)	(216)	(556)	0	(4,433)	(53)			
MN-2	3	Kept	4,174	3,729	284	0	0	1,647	17	9,851	0	
			(1,981)	(2,372)	(195)	0	0	(874)	(25)	(3,218)	0	
		Released	1,730	475	0	219	0	1,277	96	3,797	0	
			(958)	(327)	0	(136)	0	(719)	(135)	(1,256)	0	
Total	5,904	4,204	284	219	0	2,924	113	13,648	0			
	(2,200)	(2,394)	(195)	(136)	0	(1,132)	(137)	(3,454)	0			
MN-3	4	Kept	2,197	959	432	26	0	1,010	0	4,624	0	
			(977)	(485)	(242)	(17)	0	(782)	0	(1,364)	0	
		Released	1,601	80	9	301	0	1,651	60	3,702	0	
			(1,398)	(75)	(11)	(178)	0	(1,016)	(70)	(1,740)	0	
Total	3,798	1,039	441	327	0	2,661	60	8,326	0			
	(1,706)	(491)	(242)	(179)	0	(1,282)	(70)	(2,211)	0			
Lower	1 & 2	Kept	9,649	1,863	340	28	290	807	0	12,977	72	
			(4,019)	(1,006)	(153)	(40)	(211)	(500)	0	(4,182)	(57)	
		Released	2,421	599	40	263	86	255	0	3,664	310	
			(1,515)	(320)	(43)	(134)	(64)	(243)	0	(1,575)	(270)	
Total	12,070	2,462	380	291	376	1,062	0	16,641	382			
	(4,295)	(1,056)	(159)	(140)	(221)	(556)	0	(4,469)	(276)			
Upper	3 & 4	Kept	6,371	4,688	716	26	0	2,657	17	14,475	0	
			(2,209)	(2,421)	(311)	(17)	0	(1,173)	(25)	(3,495)	0	
		Released	3,331	555	9	520	0	2,928	156	7,499	0	
			(1,695)	(335)	(11)	(224)	0	(1,245)	(152)	(2,146)	0	
Total	9,702	5,243	725	546	0	5,585	173	21,974	0			
	(2,784)	(2,444)	(311)	(225)	0	(1,710)	(154)	(4,101)	0			
Total	1,2,3,4	Kept	16,020	6,551	1,056	54	290	3,464	17	27,452	72	
			(4,586)	(2,622)	(346)	(43)	(211)	(1,275)	(25)	(5,450)	(57)	
		Released	5,752	1,154	49	783	86	3,183	156	11,163	310	
			(2,273)	(464)	(44)	(261)	(64)	(1,268)	(152)	(2,662)	(270)	
Total	21,772	7,705	1,105	837	376	6,647	173	38,615	382			
	(4,924)	(2,661)	(349)	(196)	(221)	(1,484)	(138)	(5,811)	(276)			

¹ Great Lakes Fishery Commission Statistical Districts

² Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

³ Includes kamloops Rainbow Trout (69 lb). Anglers also harvested Cisco (165 lb).

Table 8. Catch by species, location, and shore area for chartered anglers¹ in the 2021 Lake Superior summer creel survey. SE=0 for all values.

District ²	Cluster ³	Fate	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other ⁴ Salmonines	Total Salmonines	Walleye
MN-1	1	Kept	8,572	964	740	8	1,587	42	25	11,938	286
		Released	244	12	24	107	0	24	0	411	3
		Total	8,816	976	764	115	1,587	66	25	12,349	289
MN-1	2	Kept	402	922	108	1	11	69	2	1,515	0
		Released	85	3	1	11	0	44	0	144	0
		Total	487	925	109	12	11	113	2	1,659	0
MN-2	3	Kept	1,077	327	57	0	0	328	0	1,789	0
		Released	193	5	0	27	0	4	0	229	0
		Total	1,270	332	57	27	0	332	0	2,018	0
MN-3	4	Kept	475	154	123	0	0	191	0	943	0
		Released	32	4	6	24	0	29	0	95	0
		Total	507	158	129	24	0	220	0	1,038	0
Lower	1,2	Kept	8,974	1,886	848	9	1,598	111	27	13,453	286
		Released	329	15	25	118	0	68	0	555	3
		Total	9,303	1,901	873	127	1,598	179	27	14,008	289
Upper	3,4	Kept	1,552	481	180	0	0	519	0	2,732	0
		Released	225	9	6	51	0	33	0	324	0
		Total	1,777	490	186	51	0	552	0	3,056	0
Total		Kept	10,526	2,367	1,028	9	1,598	630	27	16,185	286
		Released	554	24	31	169	0	101	0	879	3
		Total	11,080	2,391	1,059	178	1,598	731	27	17,064	289

¹The Minnesota results include all charter fishing, including trips that originated from Wisconsin.

²Great Lakes Fishery Commission Statistical Districts

³Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

⁴Includes Brown Trout (99 lb) and kamloops Rainbow Trout (21 lb). Anglers also harvested Northern Pike (12 lb), Cisco (5 lb), Cisco (22 lb), and Lake Whitefish (22 lb).

Table 9. Catch¹ by species, location, and shore area for all anglers in the 2021 Lake Superior summer creel survey. SE in parentheses.

District ²	Cluster ³	Fate	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other ⁴ Salmonines	Total Salmonines	Walleye
MN-1	1	Kept	9,486	968	767	8	1,618	42	25	12,914	319
		(SE)	(561)	(7)	(33)	0	(46)	0	0	(564)	(33)
		Released	282	12	24	107	0	24	0	449	294
		(SE)	(50)	0	0	0	0	0	0	(50)	(269)
		Total	9,768	980	791	115	1,618	66	25	13,363	613
(SE)	(563)	(7)	(33)	0	(46)	0	0	(566)	(271)		
MN-1	2	Kept	9,137	2,781	421	29	270	876	2	13,516	39
		(SE)	(3,980)	(1,006)	(149)	(40)	(206)	(500)	0	(4,144)	(46)
		Released	2,468	602	41	274	86	299	0	3,770	19
		(SE)	(1,514)	(320)	(43)	(134)	(64)	(243)	0	(1,574)	(27)
		Total	11,605	3,383	462	303	356	1,175	2	17,286	58
(SE)	(4,258)	(1,056)	(155)	(140)	(216)	(556)	0	(4,433)	(53)		
MN-2	3	Kept	5,251	4,056	341	0	0	1,975	17	11,640	0
		(SE)	(1,981)	(2,372)	(195)	0	0	(874)	(25)	(3,218)	0
		Released	1,923	480	0	246	0	1,281	96	4,026	0
		(SE)	(958)	(327)	0	(136)	0	(719)	(135)	(1,256)	0
		Total	7,174	4,536	341	246	0	3,256	113	15,666	0
(SE)	(2,200)	(2,394)	(195)	(136)	0	(1,132)	(137)	(3,454)	0		
MN-3	4	Kept	2,672	1,113	555	26	0	1,201	0	5,567	0
		(SE)	(977)	(485)	(242)	(17)	0	(782)	0	(1,364)	0
		Released	1,633	84	15	325	0	1,680	60	3,797	0
		(SE)	(1,398)	(75)	(11)	(178)	0	(1,016)	(70)	(1,740)	0
		Total	4,305	1,197	570	351	0	2,881	60	9,364	0
(SE)	(1,706)	(491)	(242)	(179)	0	(1,282)	(70)	(2,211)	0		
Lower	1 & 2	Kept	18,623	3,749	1,188	37	1,888	918	27	26,430	358
		(SE)	(4,019)	(1,006)	(153)	(40)	(211)	(500)	0	(4,182)	(57)
		Released	2,750	614	65	381	86	323	0	4,219	313
		(SE)	(1,515)	(320)	(43)	(134)	(64)	(243)	0	(1,575)	(270)
		Total	21,373	4,363	1,253	418	1,974	1,241	27	30,649	671
(SE)	(4,295)	(1,056)	(159)	(140)	(221)	(556)	0	(4,469)	(276)		
Upper	3 & 4	Kept	7,923	5,169	896	26	0	3,176	17	17,207	0
		(SE)	(2,209)	(2,421)	(311)	(17)	0	(1,173)	(25)	(3,495)	0
		Released	3,556	564	15	571	0	2,961	156	7,823	0
		(SE)	(1,695)	(335)	(11)	(224)	0	(1,245)	(152)	(2,146)	0
		Total	11,479	5,733	911	597	0	6,137	173	25,030	0
(SE)	(2,784)	(2,444)	(311)	(225)	0	(1,710)	(154)	(4,101)	0		
Total	1,2,3,4	Kept	26,546	8,918	2,084	63	1,888	4,094	44	43,637	358
		(SE)	(4,586)	(2,622)	(346)	(43)	(211)	(1,275)	(25)	(5,450)	(57)
		Released	6,306	1,178	80	952	86	3,284	156	12,042	313
		(SE)	(2,273)	(464)	(44)	(261)	(64)	(1,268)	(152)	(2,662)	(270)
		Total	32,852	10,096	2,164	1,015	1,974	7,378	200	55,679	671
(SE)	(4,924)	(2,661)	(349)	(196)	(221)	(1,484)	(138)	(5,811)	(276)		

¹ The Minnesota results include all charter fishing and excludes Wisconsin-based private sport anglers.

² Great Lakes Fishery Commission Statistical Districts

³ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

⁴ Other Salmonines included Brown Trout (99 lb), kamloops Rainbow Trout (90 lb), and Other Trout (96 lb). Anglers also harvested Northern Pike (12 lb), Cisco (179 lb), and Lake Whitefish (22 lb).

Table 10. Catch¹ by species, cluster, and shore area for private sport boats from Wisconsin in the 2021 Lake Superior summer creel survey.

District ²	Cluster ³	Fate	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other Salmonines	Total Salmonines	Walleye
MN-1	1	Kept	127	12	11	3	7	0	0	157	8

¹ Wisconsin anglers who were surveyed by Wisconsin DNR.

² Great Lakes Fishery Commission Statistical Districts

³ Cluster 1=Duluth

Table 11. Catch rate (fish hour⁻¹) by species, location, and shore area for private sport and shore anglers in the 2021 Lake Superior summer creel survey¹. SE in parentheses.

District ²	Cluster ³	Fate	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other Salmonines	Total Salmonines	Walleye	
MN-1	1	Kept	0.0633	0.0003	0.0019	0.0000	0.0021	0.0000	0.0000	0.0676	0.0023	
		(SE)	(0.0395)	(0.0005)	(0.0023)	0.0000	(0.0032)	0.0000	0.0000	(0.0398)	(0.0023)	
		Released	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0026	0.0201
		(SE)	(0.0035)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(0.0035)	(0.0187)
MN-1	2	Total	0.0659	0.0003	0.0019	0.0000	0.0021	0.0000	0.0000	0.0702	0.0224	
		(SE)	(0.0397)	(0.0005)	(0.0023)	0.0000	(0.0032)	0.0000	0.0000	(0.0400)	(0.0188)	
		Kept	0.1235	0.0263	0.0044	0.0004	0.0037	0.0114	0.0000	0.1697	0.0006	
		(SE)	(0.0578)	(0.0145)	(0.0022)	(0.0006)	(0.0003)	(0.0072)	0.0000	(0.0613)	(0.0007)	
MN-1	2	Released	0.0337	0.0085	0.0006	0.0037	0.0012	0.0036	0.0000	0.0513	0.0003	
		(SE)	(0.0217)	(0.0046)	(0.0006)	(0.0019)	(0.0009)	(0.0035)	0.0000	(0.0229)	(0.0004)	
		Total	0.1572	0.0348	0.0050	0.0041	0.0049	0.0150	0.0000	0.2210	0.0008	
		(SE)	(0.0617)	(0.0152)	(0.0023)	(0.0020)	(0.0009)	(0.0080)	0.0000	(0.0654)	(0.0008)	
MN-2	3	Kept	0.0975	0.0871	0.0066	0.0000	0.0000	0.0385	0.0004	0.2301	0.0000	
		(SE)	(0.0474)	(0.0562)	(0.0046)	0.0000	0.0000	(0.0280)	(0.0006)	(0.0790)	0.0000	
		Released	0.0404	0.0111	0.0000	0.0051	0.0000	0.0298	0.0022	0.0887	0.0000	
		(SE)	(0.0228)	(0.0077)	0.0000	(0.0032)	0.0000	(0.0171)	(0.0032)	(0.0308)	0.0000	
MN-2	3	Total	0.1379	0.0982	0.0066	0.0051	0.0000	0.0683	0.0026	0.3188	0.0000	
		(SE)	(0.0526)	(0.0567)	(0.0046)	(0.0032)	0.0000	(0.0328)	(0.0033)	(0.0848)	0.0000	
		Kept	0.1104	0.0482	0.0217	0.0013	0.0000	0.0507	0.0000	0.2323	0.0000	
		(SE)	(0.0503)	(0.0248)	(0.0123)	(0.0009)	0.0000	(0.0396)	0.0000	(0.0721)	0.0000	
MN-3	4	Released	0.0804	0.0040	0.0005	0.0151	0.0000	0.0829	0.0030	0.1860	0.0000	
		(SE)	(0.0707)	(0.0038)	(0.0006)	(0.0091)	0.0000	(0.0517)	(0.0035)	(0.0893)	0.0000	
		Total	0.1908	0.0522	0.0222	0.0164	0.0000	0.1337	0.0030	0.4183	0.0000	
		(SE)	(0.0868)	(0.0251)	(0.0123)	(0.0091)	0.0000	(0.0651)	(0.0035)	(0.1148)	0.0000	
Lower	1 & 2	Kept	0.1133	0.0219	0.0040	0.0003	0.0034	0.0095	0.0000	0.1524	0.0008	
		(SE)	(0.0483)	(0.0120)	(0.0018)	(0.0005)	(0.0025)	(0.0059)	0.0000	(0.0510)	(0.0007)	
		Released	0.0284	0.0070	0.0005	0.0031	0.0010	0.0030	0.0000	0.0430	0.0036	
		(SE)	(0.0180)	(0.0038)	(0.0005)	(0.0016)	(0.0029)	(0.0029)	0.0000	(0.0200)	(0.0032)	
Lower	1 & 2	Total	0.1417	0.0289	0.0045	0.0034	0.0044	0.0125	0.0000	0.1954	0.0045	
		(SE)	(0.0515)	(0.0126)	(0.0019)	(0.0017)	(0.0038)	(0.0066)	(0.0012)	(0.0548)	(0.0033)	
		Kept	0.1016	0.0747	0.0114	0.0004	0.0000	0.0424	0.0003	0.2308	0.0000	
		(SE)	(0.0361)	(0.0390)	(0.0050)	(0.0003)	0.0000	(0.0190)	(0.0004)	(0.0583)	0.0000	
Upper	3 & 4	Released	0.0531	0.0053	0.0001	0.0049	0.0000	0.0279	0.0015	0.0714	0.0000	
		(SE)	(0.0273)	(0.0054)	(0.0002)	(0.0036)	0.0000	(0.0202)	(0.0024)	(0.0361)	0.0000	
		Total	0.1547	0.0800	0.0115	0.0054	0.0000	0.0702	0.0018	0.3021	0.0000	
		(SE)	(0.0453)	(0.0394)	(0.0050)	(0.0036)	0.0000	(0.0277)	(0.0024)	(0.0686)	0.0000	
Total	1,2,3,4	Kept	0.1083	0.0443	0.0071	0.0004	0.0020	0.0234	0.0001	0.1856	0.0005	
		(SE)	(0.0317)	(0.0179)	(0.0024)	(0.0003)	(0.0014)	(0.0087)	(0.0002)	(0.0386)	(0.0004)	
		Released	0.0389	0.0078	0.0003	0.0053	0.0006	0.0215	0.0011	0.0755	0.0021	
		(SE)	(0.0156)	(0.0032)	(0.0003)	(0.0018)	(0.0004)	(0.0087)	(0.0010)	(0.0186)	(0.0018)	
Total	1,2,3,4	Total	0.1472	0.0521	0.0075	0.0057	0.0025	0.0449	0.0012	0.2611	0.0026	
		(SE)	(0.0353)	(0.0182)	(0.0024)	(0.0018)	(0.0015)	(0.0123)	(0.0010)	(0.0428)	(0.0018)	

¹ Wisconsin anglers who fished in the Minnesota waters of Lake Superior also caught an estimated 124 lean Lake Trout, 7 Siscowet Lake Trout, 3 Steelhead, 11 Chinook Salmon, 12 Coho Salmon, 10 Black Crappie, 4 Channel Catfish, and 8 Walleye.

² Great Lakes Fishery Commission Statistical Districts

³ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

Table 12. Catch rate (fish* hour⁻¹) by species, location, and shore area for charter anglers in the 2021 Lake Superior summer creel survey. SE in parentheses.

District ¹	Cluster ²	Fate	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other Salmonines	Total Salmonines	Walleye
MN-1	1	Kept	0.1458	0.0164	0.0126	0.0001	0.0270	0.0007	0.0004	0.2030	0.0049
		Released	0.0041	0.0002	0.0004	0.0018	0.0000	0.0004	0.0000	0.0070	0.0001
		Total	0.1499	0.0166	0.0130	0.0020	0.0270	0.0011	0.0004	0.2100	0.0049
MN-1	2	Kept	0.1486	0.3409	0.0399	0.0004	0.0041	0.0255	0.0007	0.5601	0.0000
		Released	0.0314	0.0011	0.0004	0.0041	0.0000	0.0163	0.0000	0.0532	0.0000
		Total	0.1800	0.3420	0.0403	0.0044	0.0041	0.0418	0.0007	0.6133	0.0000
MN-2	3	Kept	0.2254	0.0684	0.0119	0.0000	0.0000	0.0686	0.0000	0.3744	0.0000
		Released	0.0404	0.0010	0.0000	0.0057	0.0000	0.0008	0.0000	0.0479	0.0000
		Total	0.2658	0.0695	0.0119	0.0057	0.0000	0.0695	0.0000	0.4224	0.0000
MN-3	4	Kept	0.2063	0.0669	0.0534	0.0000	0.0000	0.0830	0.0000	0.4096	0.0000
		Released	0.0139	0.0017	0.0026	0.0104	0.0000	0.0126	0.0000	0.0413	0.0000
		Total	0.2202	0.0686	0.0560	0.0104	0.0000	0.0956	0.0000	0.4509	0.0000
Lower	1,2	Kept	0.1459	0.0307	0.0138	0.0001	0.0260	0.0018	0.0004	0.2187	0.0046
		Released	0.0053	0.0002	0.0004	0.0019	0.0000	0.0011	0.0000	0.0090	0.0000
		Total	0.1512	0.0309	0.0142	0.0021	0.0260	0.0029	0.0004	0.2277	0.0047
Upper	3,4	Kept	0.2192	0.0679	0.0254	0.0000	0.0000	0.0733	0.0000	0.3859	0.0000
		Released	0.0318	0.0013	0.0008	0.0072	0.0000	0.0047	0.0000	0.0458	0.0000
		Total	0.2510	0.0692	0.0263	0.0072	0.0000	0.0780	0.0000	0.4316	0.0000
Total	1,2,3,4	Kept	0.1534	0.0345	0.0150	0.0001	0.0233	0.0092	0.0004	0.2359	0.0042
		Released	0.0081	0.0003	0.0005	0.0025	0.0000	0.0015	0.0000	0.0128	0.0000
		Total	0.1615	0.0349	0.0154	0.0026	0.0233	0.0107	0.0004	0.2488	0.0042

¹ Great Lakes Fishery Commission Statistical Districts

² Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

Table 13. Catch rate (fish* hour⁻¹) by species, location, and shore area for all anglers in the 2021 Lake Superior summer creel survey. SE in parentheses.

District ¹	Cluster ²	Fate	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other Salmonines	Total Salmonines	Walleye
MN-1	1	Kept	0.1295	0.0132	0.0105	0.0001	0.0221	0.0006	0.0003	0.1763	0.0044
		(SE)	(0.0395)	(0.0005)	(0.0023)	0.0000	(0.0032)	0.0000	0.0000	(0.0398)	(0.0023)
		Released	0.0038	0.0002	0.0003	0.0015	0.0000	0.0003	0.0000	0.0061	0.0040
		(SE)	(0.0035)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(0.0035)	(0.0187)
MN-1	2	Total	0.1333	0.0134	0.0108	0.0016	0.0221	0.0009	0.0003	0.1824	0.0084
		(SE)	(0.0397)	(0.0005)	(0.0023)	0.0000	(0.0032)	0.0000	0.0000	(0.0400)	(0.0188)
		Kept	0.1244	0.0379	0.0057	0.0004	0.0037	0.0119	0.0000	0.1841	0.0005
		(SE)	(0.0578)	(0.0145)	(0.0022)	(0.0006)	(0.0003)	(0.0072)	0.0000	(0.0613)	(0.0007)
MN-2	3	Released	0.0336	0.0082	0.0006	0.0037	0.0012	0.0041	0.0000	0.0513	0.0003
		(SE)	(0.0217)	(0.0046)	(0.0006)	(0.0019)	(0.0009)	(0.0035)	0.0000	(0.0229)	(0.0004)
		Total	0.1581	0.0461	0.0063	0.0041	0.0048	0.0160	0.0000	0.2354	0.0008
		(SE)	(0.0617)	(0.0152)	(0.0023)	(0.0020)	(0.0009)	(0.0080)	0.0000	(0.0654)	(0.0008)
MN-3	4	Kept	0.1103	0.0852	0.0072	0.0000	0.0000	0.0415	0.0004	0.2446	0.0000
		(SE)	(0.0474)	(0.0562)	(0.0046)	0.0000	0.0000	(0.0280)	(0.0006)	(0.0790)	0.0000
		Released	0.0404	0.0101	0.0000	0.0052	0.0000	0.0269	0.0020	0.0846	0.0000
		(SE)	(0.0228)	(0.0077)	0.0000	(0.0032)	0.0000	(0.0171)	(0.0032)	(0.0308)	0.0000
Lower	1 & 2	Total	0.1507	0.0953	0.0072	0.0052	0.0000	0.0684	0.0024	0.3292	0.0000
		(SE)	(0.0526)	(0.0567)	(0.0046)	(0.0032)	0.0000	(0.0328)	(0.0033)	(0.0848)	0.0000
		Kept	0.1342	0.0559	0.0279	0.0013	0.0000	0.0603	0.0000	0.2797	0.0000
		(SE)	(0.0503)	(0.0248)	(0.0123)	(0.0009)	0.0000	(0.0396)	0.0000	(0.0721)	0.0000
Upper	3 & 4	Released	0.0820	0.0042	0.0008	0.0163	0.0000	0.0844	0.0030	0.1908	0.0000
		(SE)	(0.0707)	(0.0038)	(0.0006)	(0.0091)	0.0000	(0.0517)	(0.0035)	(0.0893)	0.0000
		Total	0.2163	0.0601	0.0286	0.0176	0.0000	0.1447	0.0030	0.4704	0.0000
		(SE)	(0.0868)	(0.0251)	(0.0123)	(0.0091)	0.0000	(0.0651)	(0.0035)	(0.1148)	0.0000
Total	1,2,3,4	Kept	0.1270	0.0256	0.0081	0.0003	0.0129	0.0063	0.0002	0.1802	0.0024
		(SE)	(0.0483)	(0.0120)	(0.0018)	(0.0005)	(0.0025)	(0.0059)	0.0000	(0.0510)	(0.0007)
		Released	0.0187	0.0042	0.0004	0.0026	0.0006	0.0022	0.0000	0.0288	0.0021
		(SE)	(0.0180)	(0.0038)	(0.0005)	(0.0016)	(0.0029)	(0.0029)	0.0000	(0.0200)	(0.0032)
Total	1,2,3,4	Total	0.1457	0.0297	0.0085	0.0028	0.0135	0.0085	0.0002	0.2089	0.0046
		(SE)	(0.0515)	(0.0126)	(0.0019)	(0.0017)	(0.0038)	(0.0066)	(0.0012)	(0.0548)	(0.0033)
		Kept	0.1135	0.0741	0.0128	0.0004	0.0000	0.0455	0.0002	0.2465	0.0000
		(SE)	(0.0361)	(0.0390)	(0.0050)	(0.0003)	0.0000	(0.0190)	(0.0004)	(0.0583)	0.0000
Total	1,2,3,4	Released	0.0509	0.0081	0.0002	0.0082	0.0000	0.0424	0.0022	0.1121	0.0000
		(SE)	(0.0273)	(0.0054)	(0.0002)	(0.0036)	0.0000	(0.0202)	(0.0024)	(0.0361)	0.0000
		Total	0.1645	0.0821	0.0131	0.0086	0.0000	0.0879	0.0025	0.3586	0.0000
		(SE)	(0.0453)	(0.0394)	(0.0050)	(0.0036)	0.0000	(0.0277)	(0.0024)	(0.0686)	0.0000
Total	1,2,3,4	Kept	0.1226	0.0412	0.0096	0.0003	0.0087	0.0189	0.0002	0.2016	0.0017
		(SE)	(0.0317)	(0.0179)	(0.0024)	(0.0003)	(0.0014)	(0.0087)	(0.0002)	(0.0386)	(0.0004)
		Released	0.0291	0.0054	0.0004	0.0044	0.0004	0.0152	0.0007	0.0556	0.0014
		(SE)	(0.0156)	(0.0032)	(0.0003)	(0.0018)	(0.0004)	(0.0087)	(0.0010)	(0.0186)	(0.0018)
Total	1,2,3,4	Total	0.1518	0.0466	0.0100	0.0047	0.0091	0.0341	0.0009	0.2572	0.0031
		(SE)	(0.0353)	(0.0182)	(0.0024)	(0.0018)	(0.0015)	(0.0123)	(0.0010)	(0.0428)	(0.0018)

¹ Great Lakes Fishery Commission Statistical Districts

² Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

Table 14. Percent of private sport angling parties, by angler type, that caught specific numbers of fish in the 2021 Lake Superior summer creel survey.

	Lake Trout		Coho Salmon		Chinook Salmon		Steelhead		Siscowet		Pink Salmon		Total Salmonines	
	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore	Boat	Shore
0	52.4	100	75.2	97.2	93	97.2	94.2	97.2	98.2	100	81.8	100	33.6	88.9
1	18.3	0	13.2	2.8	5.3	2.8	5.2	2.8	1.6	0	7.9	0	16.5	11.1
2	12.0	0	6.7	0	1.6	0	0.5	0	0.1	0	4.3	0	13.4	0
3	6.2	0	2.3	0	0	0	0	0	0.1	0	1.7	0	12.4	0
4	3	0	1.2	0	0.1	0	0	0	0	0	0.9	0	5.6	0
5	1.9	0	0.1	0	0	0	0	0	0	0	1.4	0	4.7	0
6	1.9	0	0	0	0	0	0	0	0	0	0.4	0	3.5	0
7	1.3	0	0.8	0	0	0	0.1	0	0	0	0.1	0	2.1	0
8	0.6	0	0.3	0	0	0	0	0	0	0	0.4	0	1.8	0
9	0.4	0	0	0	0	0	0	0	0	0	0.5	0	1.7	0
10	0.5	0	0.1	0	0	0	0	0	0	0	0	0	0.4	0
11	0.5	0	0	0	0	0	0	0	0	0	0	0	1.0	0
>=12	1.0	0	0.1	0	0	0	0	0	0	0	0.6	0	3.3	0

Table 15. Percent of chartered angling parties that caught specific numbers of fish in the 2021 Lake Superior summer creel survey.

Number of Fish Caught	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other Salmonines	Total Salmonines
0	7.6	82.5	72.8	93.9	68.8	85.3	98.5	2.9
1	9.8	8.3	18.9	5.3	18.2	6.1	1.5	2.3
2	12.1	5.3	6.8	0	6.8	0.8	0	7.6
3	10.6	0.8	1.5	0.8	2.3	2.3	0	9.8
4	14.4	0	0	0	2.3	1.5	0	8.3
5	11.4	0	0	0	0.8	0.8	0	15.2
6	13.4	2.3	0	0	0.8	0	0	9.1
7	8.3	0	0	0	0	0	0	12.1
8	1.5	0.8	0	0	0	0.8	0	8.3
9	1.5	0	0	0	0	0	0	6.1
10	3.8	0	0	0	0	0	0	2.3
11	0.8	0	0	0	0	0	0	5.3
>=12	4.6	0	0	0	0	2.4	0	10.7

Table 16. Length-frequency distribution (inches) and sample size of harvested salmonines by private sport boat and shore anglers in the 2021 Lake Superior summer creel survey¹. Sample size was lower due to covid-19 pandemic effects.

Species	Lake Trout	Coho Salmon	Chinook Salmon	Kamloops	Steelhead	Siscowet	Pink Salmon
Length (in)	400	144	37	0	4	14	85
6.5 to 7.4							
7.5 to 8.4							
8.5 to 9.4							
9.5 to 10.4		3					
10.5 to 11.4		1					1
11.5 to 12.4							1
12.5 to 13.4							8
13.5 to 14.4	3	1					10
14.5 to 15.4	9	1	1				32
15.5 to 16.4	5	4					29
16.5 to 17.4	15	7	1			1	4
17.5 to 18.4	28	19				1	
18.5 to 19.4	47	44					
19.5 to 20.4	50	31	1			3	
20.5 to 21.4	30	26	2				
21.5 to 22.4	36	6	3		1	1	
22.5 to 23.4	28	1	8			5	
23.5 to 24.4	44		2				
24.5 to 25.4	38		5		3	3	
25.5 to 26.4	21		1				
26.5 to 27.4	16		6				
27.5 to 28.4	14		3				
28.5 to 29.4	5		1				
29.5 to 30.4	7		1				
30.5 to 31.4			1				
31.5 to 32.4	1		1				
32.5 to 33.4	1						
33.5 to 34.4	1						
34.5 to 35.4							
35.5 to 36.4							
36.5 to 37.4							
37.5 to 38.4							
38.5 to 39.4							
39.5 to 40.4	1						
>40.4							
Average Length (inch)	21.8	19.1	24.5	0	0	21.9	15.0

Table 17. Length-frequency distribution (inches) and sample size of harvested salmonines by charter anglers¹ in the 2021 Lake Superior summer creel survey. Sample size was lower due to covid-19 pandemic effects.

	Lake Trout	Coho Salmon	Chinook Salmon	Kamloops	Steelhead	Siscowet	Pink Salmon
Length (in)	362	39	40	0	0	34	53
6.5 to 7.4							
7.5 to 8.4							
8.5 to 9.4							
9.5 to 10.4							
10.5 to 11.4							
11.5 to 12.4							1
12.5 to 13.4			2				1
13.5 to 14.4	2		6				9
14.5 to 15.4	2		6				17
15.5 to 16.4	10	4	2				19
16.5 to 17.4	22	7	1				4
17.5 to 18.4	34	9	1			1	2
18.5 to 19.4	47	8	1			9	
19.5 to 20.4	47	6	3			6	
20.5 to 21.4	46	4				7	
21.5 to 22.4	35	1	2			5	
22.5 to 23.4	22		2			4	
23.5 to 24.4	24		2			2	
24.5 to 25.4	15		1				
25.5 to 26.4	10		5				
26.5 to 27.4	8		2				
27.5 to 28.4	10		2				
28.5 to 29.4	10		1				
29.5 to 30.4	9						
30.5 to 31.4	3						
31.5 to 32.4			1				
32.5 to 33.4	3						
33.5 to 34.4	2						
34.5 to 35.4							
35.5 to 36.4	1						
36.5 to 37.4							
37.5 to 38.4							
38.5 to 39.4							
39.5 to 40.4							
>40.4							
Average Length (inch)	21.6	18.4	20.2	0	0	20.7	15.4

¹ Includes clients of chartered boat trips and excludes personal trips by licensed charter captains.

Table 18. Length-frequency distribution (inches) and sample size of released salmonines by private sport boat and shore anglers in the 2021 Lake Superior summer creel survey. Sample size was lower due to covid-19 pandemic effects.

	Lake Trout	Coho Salmon	Chinook Salmon	Kamloops	Steelhead	Siscowet	Pink Salmon	Brook Trout
Length (in)	278	40	4	0	46	3	203	4
6.5 to 7.4								
7.5 to 8.4								1
8.5 to 9.4								1
9.5 to 10.4		5	1		1			
10.5 to 11.4		1	1					1
11.5 to 12.4	1	8			1		16	
12.5 to 13.4	1	1					17	1
13.5 to 14.4	3	17	1		1		69	
14.5 to 15.4	4	3					88	
15.5 to 16.4	13	1					13	
16.5 to 17.4	40	3				1		
17.5 to 18.4	19	1						
18.5 to 19.4	30							
19.5 to 20.4	26					2		
20.5 to 21.4	9							
21.5 to 22.4	29				3			
22.5 to 23.4	6		1		2			
23.5 to 24.4	24				5			
24.5 to 25.4	17				11			
25.5 to 26.4	12				3			
26.5 to 27.4	10				12			
27.5 to 28.4	6				4			
28.5 to 29.4	5							
29.5 to 30.4	11				3			
30.5 to 31.4	1							
31.5 to 32.4	3							
32.5 to 33.4								
33.5 to 34.4	3							
34.5 to 35.4								
35.5 to 36.4	4							
36.5 to 37.4								
37.5 to 38.4	1							
38.5 to 39.4								
39.5 to 40.4								
>40.4								
Average Length (inch)	22.9	13.3	14.5		25.4	19.0	14.1	11

Table 19. Length-frequency distribution (inches) and sample size of released salmonines by charter anglers¹ in the 2021 Lake Superior summer creel survey. Sample size was lower due to covid-19 pandemic effects.

	Lake Trout	Coho Salmon	Chinook Salmon	Kamloops	Steelhead	Siscowet	Pink Salmon
Length(in)	8		1		10	1	50
6.5 to 7.4							
7.5 to 8.4							
8.5 to 9.4							
9.5 to 10.4							
10.5 to 11.4							1
11.5 to 12.4			1				
12.5 to 13.4							1
13.5 to 14.4							35
14.5 to 15.4							13
15.5 to 16.4	1						
16.5 to 17.4	1						
17.5 to 18.4	1						
18.5 to 19.4							
19.5 to 20.4	3						
20.5 to 21.4	1						
21.5 to 22.4							
22.5 to 23.4							
23.5 to 24.4					1	1	
24.5 to 25.4					3		
25.5 to 26.4					3		
26.5 to 27.4							
27.5 to 28.4					1		
28.5 to 29.4					1		
29.5 to 30.4					1		
30.5 to 31.4							
31.5 to 32.4							
32.5 to 33.4							
33.5 to 34.4	1						
34.5 to 35.4							
35.5 to 36.4							
36.5 to 37.4							
37.5 to 38.4							
38.5 to 39.4							
39.5 to 40.4							
>40.4							
Average Length (inch)	22.9	0	12.0	0	26.4	0	14.5

¹ Includes clients of chartered boat trips and excludes personal trips by licensed charter captains.

Table 20. Average weight¹ (pounds) of harvested fish by species, location, and shore area for private boat and shore anglers in the 2021 Lake Superior summer creel survey. SE in parentheses.

District ²	Cluster ³	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Walleye
	Sample size (n)	392	144	37	4	14	85	3
MN-1	1	2.23 (1.96)	1.77 (4.51)	3.98 (6.92)	0.00 (0.00)	3.50 (7.39)	0.00 (0.00)	3.77 (4.03)
MN-1	2	3.46 (2.32)	1.74 (1.34)	3.98 (2.69)	3.69 (5.70)	3.61 (4.11)	1.05 (0.94)	3.77 (4.03)
MN-2	3	3.15 (2.15)	2.10 (1.93)	3.90 (3.73)	0.00 (0.00)	0.00 (0.00)	1.01 (0.76)	0.00 (0.00)
MN-3	4	3.13 (2.06)	2.15 (1.56)	5.28 (4.29)	3.69 (2.78)	0.00 (0.00)	1.11 (1.25)	0.00 (0.00)
MN-1	Lower Shore	3.34 (2.08)	1.74 (1.64)	3.98 (2.54)	3.69 (5.70)	3.60 (3.75)	1.05 (0.94)	3.77 (3.25)
MN-2 & 3	Upper Shore	3.14 (1.58)	2.11 (1.57)	4.73 (2.96)	3.69 (2.78)	0.00 (0.00)	1.04 (0.67)	0.00 (0.00)
	Total Shore	3.26 (1.40)	2.00 (1.17)	4.49 (2.15)	3.69 (3.24)	3.60 (3.75)	1.04 (0.56)	3.77 (3.77)

¹ Due to covid restrictions in 2021, weights were calculated from length-weight regression, thus sample size is based on mostly unweighed fish.

² Great Lakes Fishery Commission Statistical Districts

³ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

Table 21. Average¹ weight (pounds) of harvested fish by species, location, and shore area for charter anglers in the 2021 Lake Superior summer creel survey². SE in parentheses.

District ³	Cluster ⁴	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Walleye
	Sample size (n)	362	39	40	0	34	53	13
MN-1	1	2.60 (0.20)	1.60 (0.53)	3.11 (0.29)	3.69 (2.17)	2.75 (0.25)	1.30 (0.40)	3.67 (0.49)
MN-1	2	3.16 (0.45)	1.58 (0.80)	3.18 (0.30)	3.69 (2.82)	2.50 (0.72)	1.30 (0.43)	3.67 (0.89)
MN-2	3	3.69 (0.42)	2.20 (0.12)	3.64 (0.35)	0.00 0.00	0.00 0.00	1.11 (0.25)	0.00 0.00
MN-3	4	3.58 (0.67)	2.20 (0.11)	3.64 (0.34)	0.00 0.00	0.00 0.00	1.16 (0.34)	0.00 0.00
MN-1	Lower Shore	2.63 (0.19)	1.59 (0.48)	3.12 (0.25)	3.69 (1.96)	2.75 (0.25)	1.30 (0.31)	3.67 (0.48)
MN-2 & 3	Upper Shore	3.66 (0.36)	2.20 (0.09)	3.64 (0.26)	0.00 0.00	0.00 0.00	1.13 (0.20)	0.00 0.00
	Total Shore	2.78 (0.34)	1.71 (0.39)	3.21 (0.37)	3.69 (1.53)	2.75 (0.30)	1.16 (0.36)	3.67 (1.13)

¹ Due to covid restrictions in 2021, most weights were calculated from length-weight regression, thus sample size is based on mostly unweighed fish.

² Includes clients of chartered boat trips and excludes personal trips by licensed charter captains.

³ Great Lakes Fishery Commission Statistical Districts

⁴ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

Table 22. Yield¹ (pounds) by species, location, and shore area for private sport boat and shore anglers in the 2021 Lake Superior summer creel survey. SE values are in parentheses.

District ²	Cluster ³	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other Salmonines ⁴	Total Salmonines	Walleye ⁵
MN-1	1	2,038	7	107	0	109	0	0	2,261	124
		(1,285)	(13)	(133)	0	(163)	0	0	(1,302)	(51)
MN-1	2	30,214	3,229	1,245	103	934	844	0	36,571	147
		(14,902)	(1,785)	(599)	(59)	(760)	(547)	0	(15,049)	(83)
MN-2	3	13,144	7,823	1,106	0	0	1,659	69	23,802	0
		(6,473)	(5,183)	(739)	0	0	(898)	0	(8,373)	0
MN-3	4	6,870	2,058	2,279	96	0	1,117	0	12,420	0
		(3,334)	(1,079)	(1,345)	(33)	0	(921)	0	(3,865)	0
MN-1	1 & 2	32,253	3,236	1,353	103	1,043	844	0	38,832	271
		(14,957)	(1,785)	(613)	(59)	(777)	(547)	0	(15,106)	(98)
MN-2 & 3	3 & 4	20,014	9,881	3,385	96	0	2,757	69	36,222	0
		(7,281)	(5,294)	(1,534)	(33)	0	(1,286)	0	(9,222)	0
Total		52,267	13,118	4,738	199	1,043	3,620	69	75,053	271
		(16,635)	(5,587)	(1,652)	(67)	(777)	(1,397)	0	(17,698)	(98)

¹ Estimates are rounded to the nearest pound.

² Great Lakes Fishery Commission Statistical Districts

³ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

⁴ Includes kamloops Rainbow Trout (69 lb). Anglers also harvested Cisco (165 lb).

Table 23. Yield¹ (pounds) by species, location, and shore area for charter anglers in the 2021 Lake Superior summer creel survey. SE values are in parentheses.

District ²	Cluster ³	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other Salmonines ⁴	Total Salmonines	Walleye
MN-1	1	22,287 (4,413)	1,539 (1,124)	2,302 (1,229)	30 (44)	4,367 (2,201)	55 0	116 (12)	30,695 (5,205)	1,050 (199)
MN-1	2	1,270 (855)	1,453 (1,296)	343 (187)	4 (6)	27 (23)	90 (45)	9 (3)	3,196 (1,565)	0 0
MN-2	3	3,977 (2,581)	718 (253)	207 (123)	0 0	0 0	364 (165)	0 0	5,267 (2,601)	0 0
MN-3	4	1,702 (1,397)	338 (114)	447 (262)	0 (3)	0 0	222 (112)	0 0	2,710 (1,430)	0 0
MN-1	1 & 2	23,557 (4,495)	2,992 (1,716)	2,645 (1,243)	33 (44)	4,395 (2,201)	144 (45)	125 (12)	33,891 (5,435)	1,050 (199)
MN-2 & 3	3 & 4	5,680 (2,934)	1,056 (277)	655 (290)	0 (3)	0 0	586 (199)	0 0	7,977 (2,968)	0 0
Total		29,237 (5,368)	4,048 (1,738)	3,300 (1,276)	33 (44)	4,395 (2,201)	730 (205)	125 (12)	41,868 (6,193)	1,050 (199)

¹ Estimates are rounded to the nearest pound.

² Great Lakes Fishery Commission Statistical Districts

³ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

⁴ Includes Brown Trout (99 lb) and kamloops Rainbow Trout (21 lb). Anglers harvested Northern Pike (12 lb), Cisco (5 lb), Cisco (22 lb), and Lake Whitefish (22 lb).

Table 24. Yield¹ (pounds) by species, location, and shore area for all anglers in the 2021 Lake Superior summer creel survey. SE values are in parentheses.

District ²	Cluster ³	Lake Trout	Coho Salmon	Chinook Salmon	Steelhead	Siscowet	Pink Salmon	Other Salmonines ⁴	Total Salmonines	Walleye ⁵
MN-1	1	24,325 (4,596)	1,546 (1,124)	2,410 (1,236)	30 (44)	4,476 (2,207)	55 0	116 (12)	32,957 (5,366)	1,175 (206)
MN-1	2	31,484 (14,926)	4,682 (2,206)	1,589 (627)	107 (59)	962 (760)	934 (549)	9 (3)	39,767 (15,130)	147 (83)
MN-2	3	17,121 (6,968)	8,542 (5,189)	1,314 (749)	0 0	0 0	2,023 (913)	69 0	29,069 (8,768)	0 0
MN-3	4	8,572 (3,615)	2,396 (1,085)	2,726 (1,370)	96 (33)	0 0	1,339 (927)	0 0	15,130 (4,121)	0 0
MN-1	1 & 2	55,810 (15,618)	6,228 (2,476)	3,998 (1,386)	137 (74)	5,438 (2,334)	988 (549)	125 (12)	72,723 (16,054)	1,322 (222)
MN-2 & 3	3 & 4	25,694 (7,850)	10,938 (5,301)	4,040 (1,561)	96 (33)	0 0	3,362 (1,301)	69 0	44,198 (9,688)	0 0
Total		81,503 (17,480)	17,166 (5,851)	8,038 (2,088)	232 (80)	5,438 (2,334)	4,350 (1,412)	194 (12)	116,922 (18,750)	1,322 (222)

¹ Estimates are rounded to the nearest pound.

² Great Lakes Fishery Commission Statistical Districts

³ Cluster 1=Duluth, Cluster 2=McQuade-Two Harbors, Cluster 3=Twin Points-Taconite Harbor, Cluster 4=Grand Marais-Hovland.

⁴ Other Salmonines included Brown Trout (99 lb.), kamloops Rainbow Trout (90 lb.), and Other Trout (angler ID'd as Atlantic Salmon (4 lb.).

⁵ Anglers also harvested Northern Pike (12 lb), Cisco (179 lb), and Lake Whitefish (22 lb).

Table 25. Age distribution, in percent, of harvested lean Lake Trout (wild and stocked) for private sport boat and shore anglers in the 2021 Lake Superior summer creel survey. n=392.

Age	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI+
%	0.01	1.73	10.91	25.56	16.95	11.79	8.66	5.73	5.46	3.32	2.35	1.58	5.96

Table 26. Age distribution, in percent, of harvested lean Lake Trout (wild and stocked) for all chartered anglers in the 2021 Lake Superior summer creel survey. n=362.

Age	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI+
%	0	0.94	12.84	30.05	17.07	10.32	6.88	4.55	4.45	3.08	2.01	1.64	6.18

Table 27. Age distribution, in percent, of harvested lean Lake Trout (wild and stocked) for all anglers in the 2021 Lake Superior summer creel survey. n=754.

Age	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI+
%	0.01	1.35	11.84	27.72	17.01	11.08	7.8	5.16	4.97	3.20	2.18	1.61	6.07

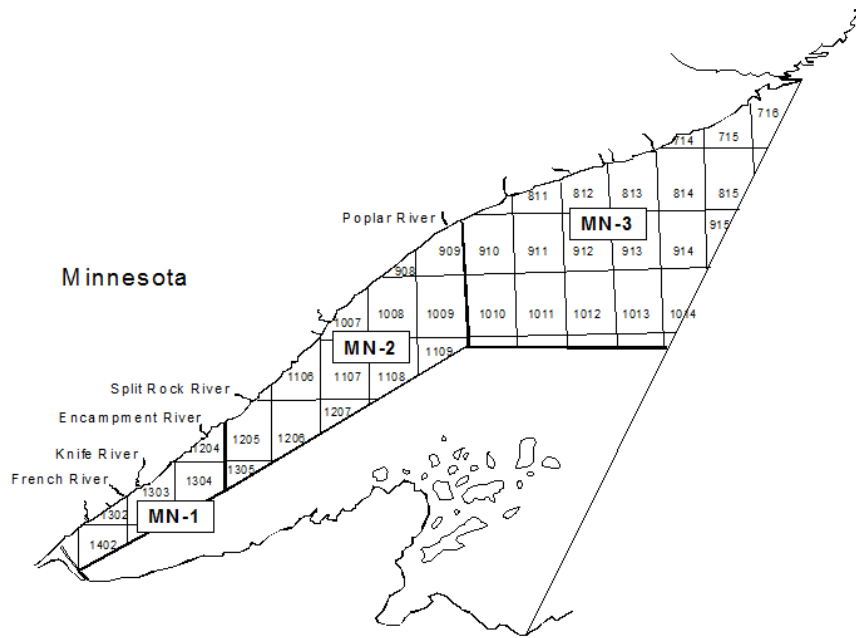


Figure 1. Statistical districts in Minnesota waters of Lake Superior.

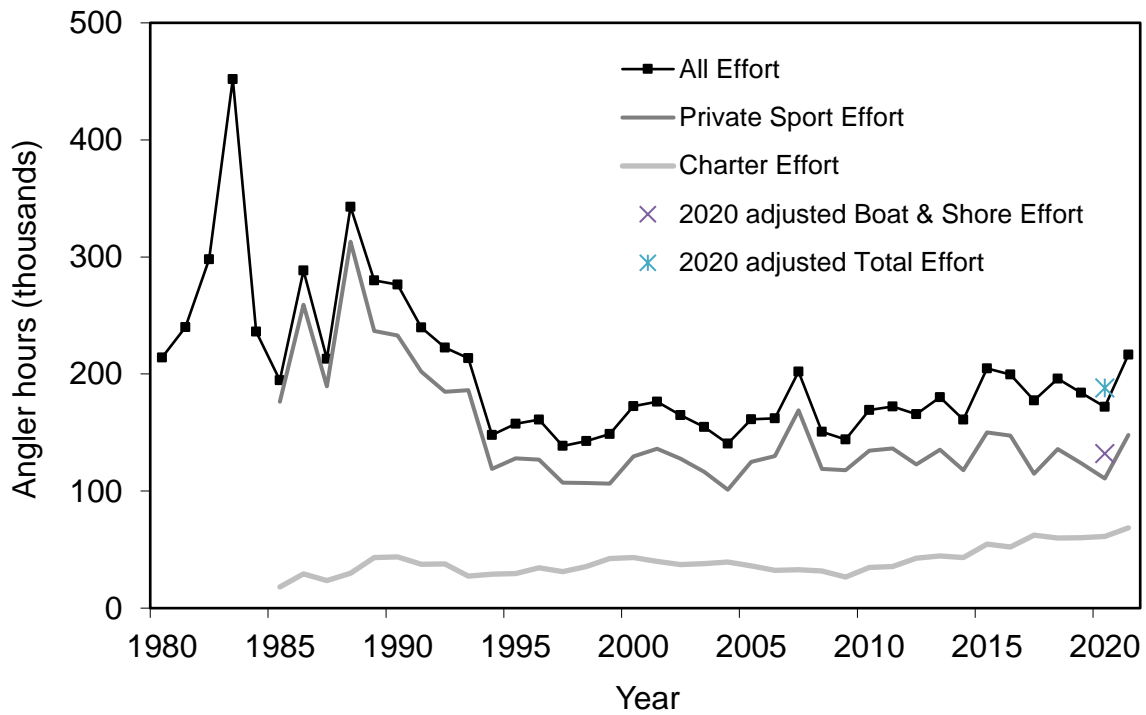


Figure 2. Angling effort in the Lake Superior summer creel survey, 1980-2021. The design of the summer Lake Superior creel survey was changed in 1994 (Halpern 1995a,b).

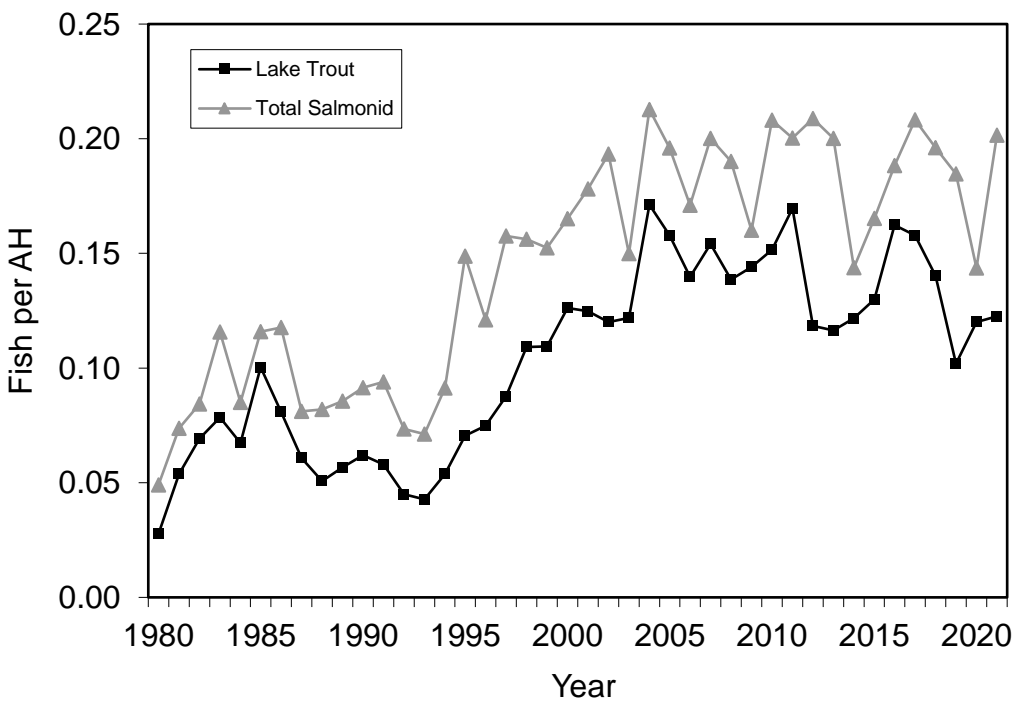


Figure 3. Harvest rate for Lake Trout and all Salmonines combined in the Lake Superior summer creel survey, 1980-2021.

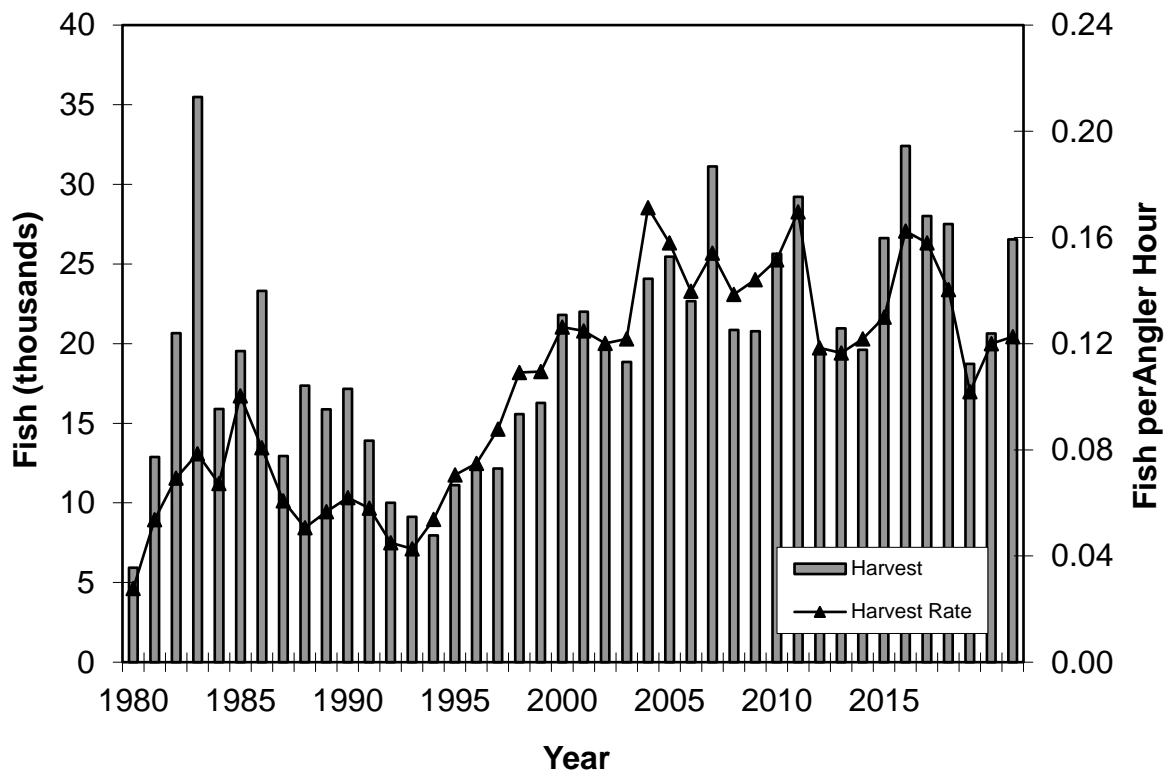


Figure 4. Lake Trout harvest and harvest rate in the Lake Superior summer creel survey, 1980-2021.

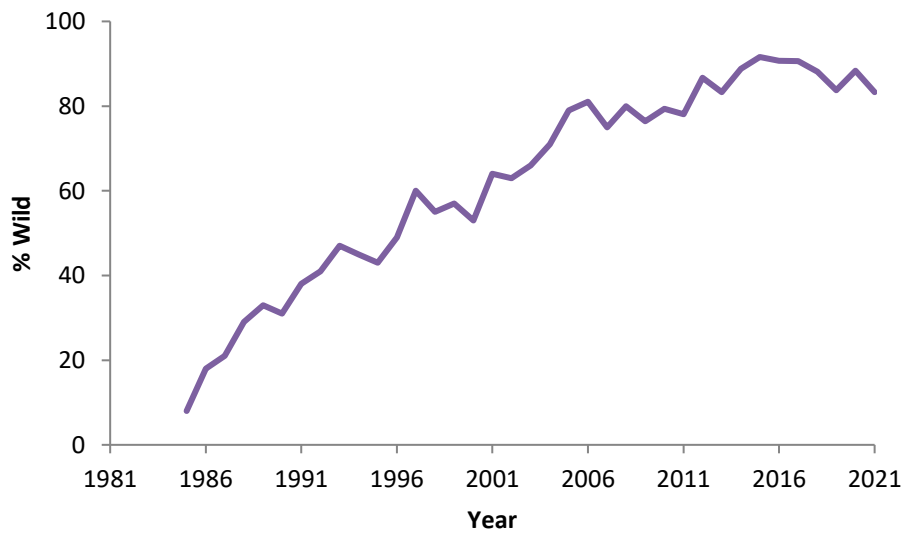


Figure 5. Percent wild Lake Trout observed by creel clerks in the Lake Superior summer creel survey, 1985-2021.

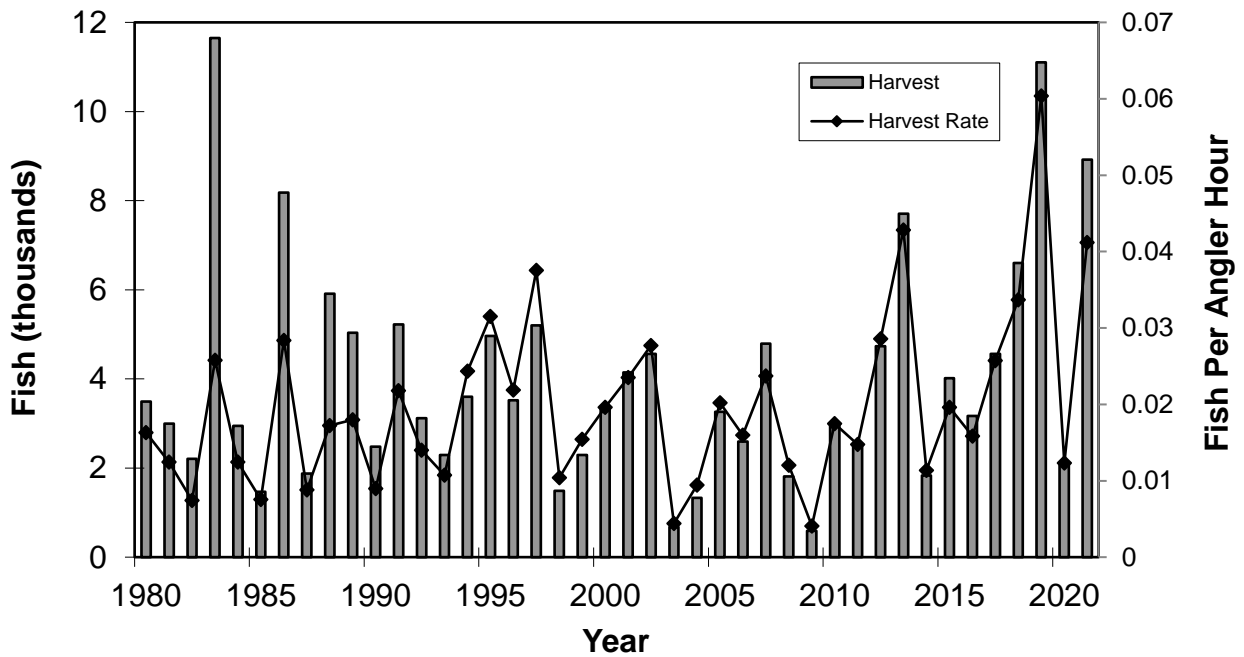


Figure 6. Coho Salmon harvest and harvest rate in the Lake Superior summer creel survey, 1980-2021.

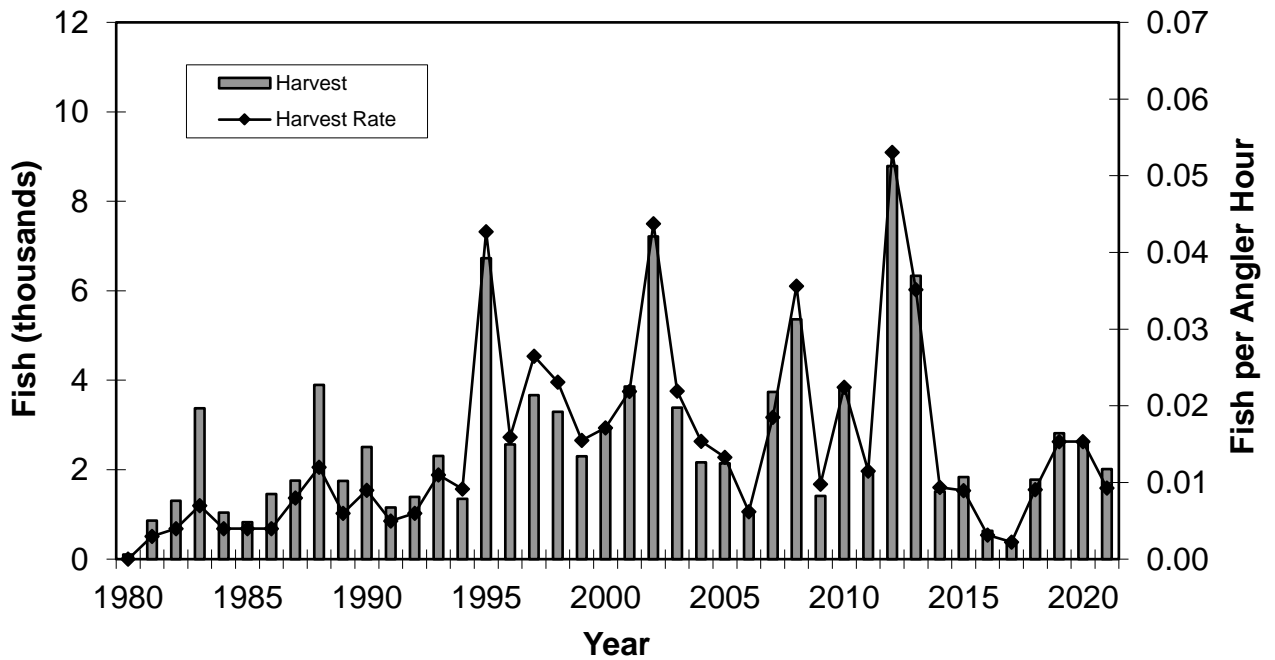


Figure 7. Chinook Salmon harvest and harvest rate in the Lake Superior summer creel survey, 1980-2021.

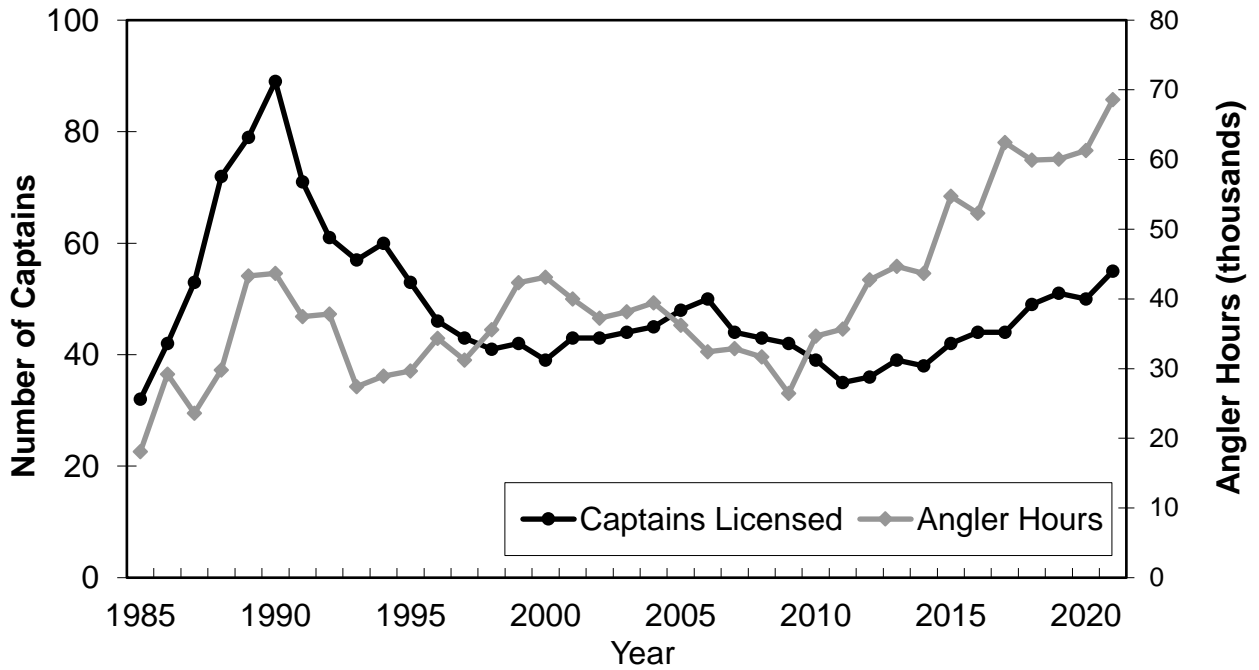


Figure 8. Number of licensed charter captains and fishing effort (angler hours) in the charter fishery; Minnesota waters of Lake Superior, 1985-2021.

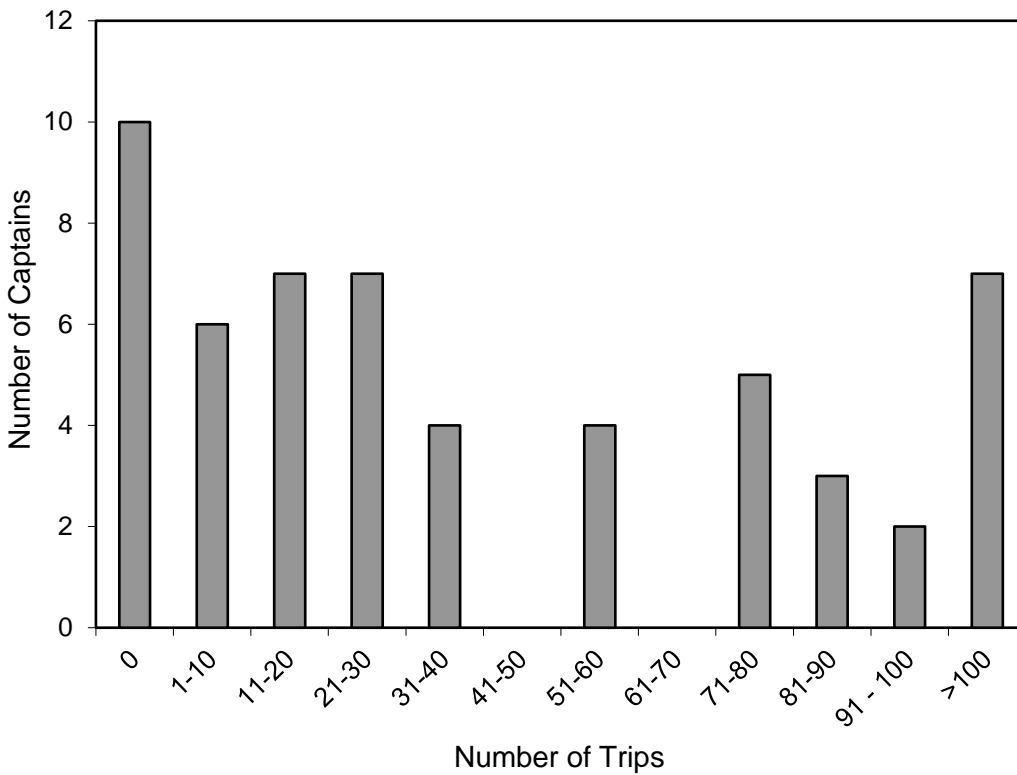


Figure 9. Number of charter captains making specific numbers of trips in Minnesota waters of Lake Superior, 2021.