WISCONSIN DEPARTMENT OF NATURAL RESOURCES

LAKE SUPERIOR CREEL REPORT 2021

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INTRODUCTION

The Wisconsin Department of Natural Resources (DNR) Lake Superior Fisheries Management Team conducts an annual creel survey of the open-water and ice fishing seasons in Wisconsin waters of Lake Superior spanning all the way from Superior Entry to Saxon Harbor. In addition, DNR staff gather madatory monthly harvest reports from all licensed charter captains in Wisconsin waters of Lake Superior. This creel survey is a major undertaking for the DNR's Lake Superior Fisheries Management Team in terms of time and money. Approximately 5,000 seasonal employee hours (i.e., creel clerks) and hundreds of hours of permanent staff (e.g., processing data, reports, etc.) are required each year to effectively run the creel survey.

The harvest estimates resulting from this creel survey are crucial for numerous reasons. First, Lake Trout harvest estimates from management unit WI-2 are monitored closely to ensure the sport harvest does not exceed the quota allotted to sport fishing. Second, Lake Trout sport harvest, fishing effort and size distribution of harvested Lake Trout are important inputs into the statistical catch-at-age model, which is used to estimate population size and ultimately set the Lake Trout total allowable catch in WI-2. Third, harvest estimates of all species from the creel survey are used to evaluate effects of fishing regulation changes on sport fishing harvest. Lastly, harvest results are continually used to monitor "return-to-creel" rates of stocked fish and assess sport fishing preferences and popularity of various fisheries.

METHODS

The sport fishery harvest in Wisconsin waters of Lake Superior was estimated during the normal Lake Trout sport fishing season (Dec. 1 through Sept. 30). Fishing effort, harvest and harvest rates were determined from 1) a series of randomized creel surveys during the ice fishing season (WI-2 only) and the open-water fishing season, and 2) mandatory licensed charter boat reporting.

In summary, a creel survey estimates fishing effort (hours) through a series of random vehicle/trailer counts at public access locations and then extrapolates those effort values to the total number of fishing days. Creel clerks interview anglers, which provides information such as number of anglers in the party, time spent fishing, relative location fished, species targeted, number of fish harvested and biological characteristics (e.g., length, fin clips, etc.) of harvested fish. From this information, anglers are separated into various "fisheries" (see more details of different fisheries below) in order to appropriately allocate the estimated effort to various fisheries. Harvest rates (number of fish per angler-hour) are also calculated from interview information; harvest rates and total effort are calculated for each fishery by day type (i.e., weekend/weekday) for each location (e.g., Ashland route) within each month. Harvest estimates are calculated by multiplying the harvest rate by the total effort (angler-hours) within each of these groupings.

Harvested fish were identified and measured to the nearest tenth of an inch. Fin clips as well as any tags that were present were recorded. The Wisconsin waters of Lake Superior are divided into two management units: WI-1 or the Western Arm (west of the line running north-south from Bark Point; 46 deg. 53.21 min. N, 91 deg. 11.16 min. W) and WI-2 or the Apostle Islands region (east of the Bark Point line; Figure 1). Creel results were separated by management unit.

Interview and count (effort) data were entered into a Microsoft Access database and subsequently run through a program in the statistical program R (R version 3.6.1) to obtain harvest and effort estimates. Original functions to calculate creel statistics and randomize creel schedules were developed by Dr. Derek Ogle of Northland College.

DECEMBER OPEN-WATER SURVEY

An open-water creel survey was conducted along the main shore from Dec. 1, 2020 – Dec. 27, 2020 (final ice up) at access points near Washburn and Bayfield. Trailer counts and interviews were obtained using a stratified, access-point survey method. Interviews were conducted in the same manner as the open-water survey method (below).

ICE CREEL SURVEY

An ice creel survey was conducted near Ashland (i.e., Second Landing-Long Bridge) from Dec. 20, 2020 to Mar. 21, 2021 and near Washburn/Bayfield ("S" Curve-Bono Creek access through the northern most area of fishing activity) from Dec. 27, 2020 – Mar. 20, 2021. Vehicle counts were obtained using a stratified, access-point survey method. Two separate vehicle counts were made daily starting at approximately 9 a.m. and 2 p.m. for each site in each random route. Vehicles present in morning and afternoon checks were not counted twice. Interviews for the ice creel survey were conducted at the access point. Any number of anglers in a single vehicle was considered an angling party. Anglers interviewed in the ice fishery were separated into three different fisheries: Ice Shallow Water (less than 60 feet), Ice Deep Water- "Bobbing" (greater than or equal to 60 feet) and Northern Pike Ice Spearing.

OPEN-WATER SURVEY

In 2021, DNR staff conducted a single-loop time interval creel survey during the open-water fishing season on Wisconsin waters of Lake Superior. The following locations were surveyed (start date): Saxon (March 20), Ashland (April 28), Washburn (April 28), Bayfield (May 1), Red Cliff (May 1), Little Sand Bay (May 1), Cornucopia / Port Wing (May 1) and Superior (May 19). The open-water creel survey ended on Sept. 30, 2021.

Trailer counts and interviews were obtained using a randomized, single-loop time interval method (i.e., bus route). Using the time interval procedure, vehicles with boat trailers and harbor boats were counted at each access site. Boats going out to fish or returning from fishing were counted as a fraction of the time the clerk spent at the site (i.e., individual boat count = [creel shift in minutes – minutes at site] / creel shift in minutes). A boat beginning to fish was added to the initial count, and a boat stopping or returning from fishing was subtracted from the initial count.

Boats returning from fishing were interviewed at the access point. Total number of anglers on board was treated as an angler party, and parties were categorized by fishery. For example, if the boat was fishing for cool-water species such as Northern Pike, Walleye or Yellow Perch in a predominately cool-water area, it was recorded under the "Open-Water Cool" fishery. If the boat was trolling for trout and salmon (i.e., cold-water species), it was recorded under the "Open-Water Cold" fishery. If the boat was strictly practicing catch-and-release Smallmouth Bass fishing, it was recorded under the "Smallmouth Bass Only" fishery. If the boat was targeting Lake Whitefish by jigging, it was recorded under the "Open-Water Whitefish" fishery. These various fisheries are distinguished so that effort from boat and trailer counts will accurately represent fishers on the water (e.g., Smallmouth Bass catch-and-release effort will not inflate Walleye harvest estimates). If the boat was fishing for "anything that bites," the area the boat fished would determine which fishery to place the interview. Finally, if the party was not fishing, it was placed in the category "Pleasure," and therefore, that effort was not applied to harvest estimates.

Charter boats were not counted in effort estimates at a site due to mandatory reporting (see below). Sailboats were also excluded from counts unless fishing gear (e.g., downriggers or rods) was present. The jurisdiction in which the boat fished was also determined. Saxon Harbor and ports within Superior, Wisconsin are considered boundary waters with Michigan and Minnesota, respectively. Effort and harvest of parties fishing in non-Wisconsin waters were not included in Wisconsin harvest estimates. Boats that fished both states' waters had half the total effort/harvest assigned to Wisconsin waters.

Anglers were also asked for their primary zip code of residence during interviews. A density map of the primary residence of anglers fishing Wisconsin waters of Lake Superior was created using a kernel density function in ArcGIS Pro.

CHARTER REPORTING

Harvest estimates for guided charters came from mandatory monthly reports that were initiated in 1973. Information on number of anglers, hours fished, location (grid) and number of various species harvested were included in the Sport Trolling License Monthly Report (Form 9400-249).

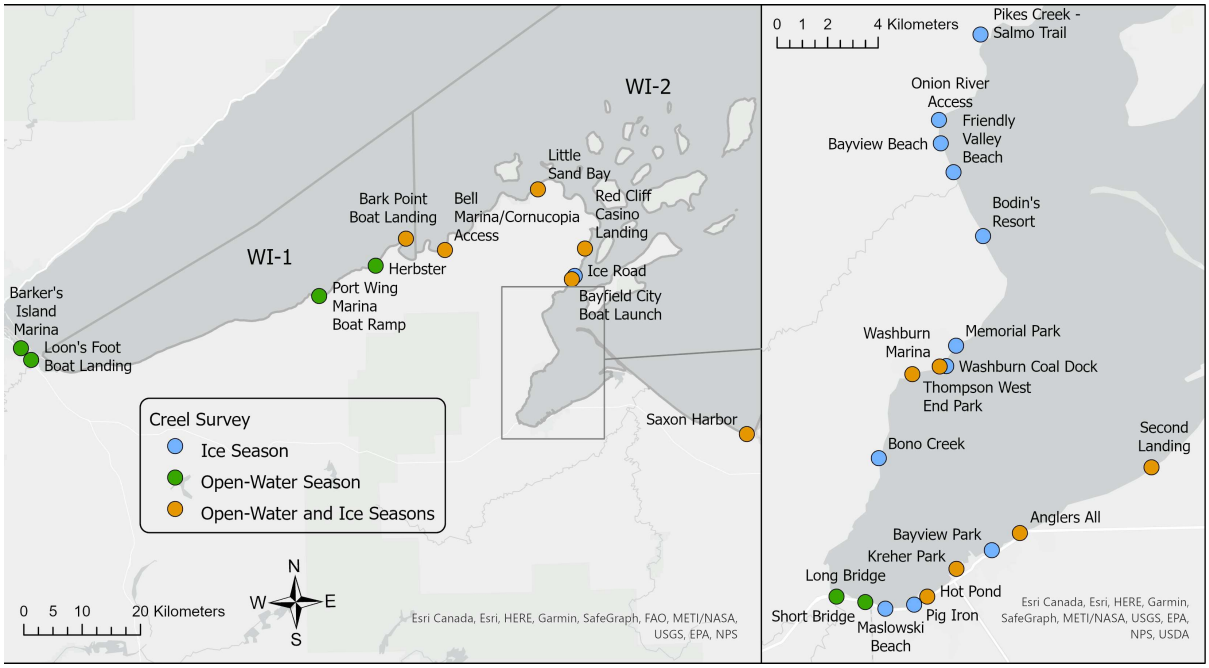

Figure 1. Wisconsin waters of Lake Superior, management units WI-1 and WI-2, and all ports sampled in the DNR Creel Survey (blue - ice season only; green - open-water season only; orange - both ice and open-water seasons).

RESULTS

ANGLER DEMOGRAPHICS

Primary residences were determined based on zip codes provided during creel interviews. The 2021 DNR Lake Superior Creel Survey included interviews of anglers residing in 15 different U.S. states and 139 U.S. counties (Figure 2). Approximately 79% of anglers were Wisconsin residents and 17% were Minnesota residents. Lake Superior anglers were represented in 59 of 72 (82%) Wisconsin counties in 2021.

WI–1

The 2021 Creel Survey in Management Unit WI-1 included 868 creel interviews of angler parties (1,927 anglers interviewed) resulting in 64,429 angler-hours in WI-1 including Charter fishing reporting (Figure 3). This was the highest amount of effort measured in this five-year time series (2017-2021). The estimated harvest from all three fisheries in this management unit was 7,001 fish (Figure 4). Lake Trout (3,282), Walleye (1,749) and Coho Salmon (861) accounted for 84.2% of the harvest. Overall harvest rate was 0.1087 fish/hour (Figure 5). Lake Trout harvest rate was the highest (0.0509 fish/hour), followed by Walleye (0.0271 fish/hour) and Coho Salmon (0.0134 fish/hour).

In WI-1, the 2021 effort was higher than the five-year average effort (54,882 angler-hours). However, total fish, Lake Trout, Coho Salmon and Walleye harvest estimates and harvest rates were all lower than their respective five-year averages.

OPEN-WATER COLD

The Open-Water Cold fishery accounted for the most effort in Management Unit WI-1 with 35,930 angler-hours (55.8% of the total fishing effort). Anglers in the Open-Water Cold fishery harvested 4,403 total fish. Lake Trout (2,593), Coho Salmon (725) and Walleye (390) accounted for 84.2% of the harvest in this fishery. Overall harvest rate was 0.1225 fish/hour. Lake trout harvest rate was highest (0.0722 fish/hour), followed by Coho Salmon (0.0202 fish/hour) and Walleye (0.0109 fish/hour).

In WI-1, the 2021 Open-Water Cold total fish, Lake Trout and Coho Salmon harvest estimates and harvest rates were all lower than their respective five-year averages. WI-1 Open-Water Cold effort was higher than the five-year average.

OPEN-WATER COOL

The Open-Water Cool fishery accounted for 25,460 angler-hours (39.5% of the total fishing effort in WI-1). Anglers in the Open-Water Cool fishery harvested 1,855 total fish. Walleye (1,323), Lake Trout (181) and Black Crappie (156) accounted for 89.5% of the harvest in this fishery. Overall harvest rate was 0.0729 fish/hour, and Walleye harvest rate was 0.0520 fish/hour.

In WI-1, the 2021 Open-Water Cool effort was higher than the 5-year average. However, the total fish and Walleye harvest estimates and harvest rates were all lower than their respective five-year averages.

CHARTER

The Charter fishery accounted for 3,025 angler-hours (4.7% of the total fishing effort in WI-1). Anglers in the Charter fishery harvested 743 fish. Lake Trout (508), Coho Salmon (96), Chinook Salmon (76) and Walleye (36) accounted for 96.4% of the harvest. The overall harvest rate was 0.2456 fish/hour. Lake Trout harvest rate was highest (0.1679 fish/hour), followed by Coho Salmon (0.0317 fish/hour), Chinook Salmon (0.0251 fish/hour) and Walleye (0.0119 fish/hour).

In WI-1, the 2021 Charter effort, total fish harvested and Lake Trout harvest were all higher than their respective five-year averages. The overall harvest rate and Lake Trout harvest rate were lower than their respective five-year averages.

WI–2

The 2021 Creel Survey in Management Unit WI-2 included 3,016 creel interviews of angler parties (6,085 anglers interviewed) resulting in 265,324 angler-hours in WI-2 including Charter fishing reporting (Figure 3). The estimated harvest was 62,952 fish (Figure 4). Lake Trout (12,336), Rainbow Smelt (10,744), Yellow Perch (10,686), Lake Whitefish (9,748) and Coho Salmon (9,222) were the top five species harvested and accounted for 83.8% of the harvest. Overall harvest rate was 0.2373 fish/hour (Figure 5). Lake Trout harvest rate was highest (0.0465 fish/hour), followed by Rainbow Smelt (0.0405 fish/hour), Yellow Perch (0.0403 fish/hour), Lake Whitefish (0.0367 fish/hour) and Coho Salmon (0.0348 fish/hour).

In WI-2, the 2021 effort, total fish harvest and total fish harvest rate were all higher than their respective five-year averages. Likewise, Coho Salmon, Splake, Rainbow Smelt and Northern Pike harvest estimates and harvest rates were all higher than their respective five-year averages. Lake Trout and Walleye total harvest were also higher than the five-year average, but harvest rates for these two species were lower than average. Lastly, Brown Trout, Lake Whitefish and Yellow Perch harvest estimates and harvest rates were all lower than their respective averages from the last five years.

DECEMBER OPEN-WATER

The December Open-Water fishery accounted for 1,133 angler-hours (0.4% of the total fishing effort in WI-2). Anglers in this fishery harvested 529 fish (0.8% of the total harvest in WI-2). Coho Salmon harvest was the highest with 254 fish (48.0% of the harvest in this fishery), followed by Brown Trout (152), Splake (86), Lake Trout (33) and Walleye (2). Overall harvest rate was 0.4669 fish/hour. This was the highest harvest rate of all fisheries in WI-2.

In WI-2, 2021 December Open-Water effort and total fish harvested were higher than the average over the last five years. However, the overall harvest rate was down slightly from the five-year average of 0.4772 fish/hour.

ICE < 60 FEET - SHALLOW

The Ice < 60 feet – Shallow fishery accounted for 95,085 angler-hours (35.8% of the total fishing effort in WI-2). Anglers in this fishery harvested 34,236 total fish (54.4% of the total harvest in WI-2). Rainbow Smelt (10,744), Yellow Perch (10,092), Coho Salmon (4,275), Lake Whitefish (3,409) and Splake (3,026) were the top five species harvested and accounted for 92.1% of the total harvest in this fishery. Overall harvest rate was 0.3601 fish/hour, which was higher than the previous two seasons. Rainbow Smelt harvest rate was highest (0.1130 fish/hour), followed by Yellow Perch (0.1061 fish/hour), Coho Salmon (0.0450 fish/hour) and Splake (0.0318 fish/hour).

In WI-2, the 2021 Ice < 60 feet – Shallow fishery total effort and total fish harvested were higher than each of the previous four seasons. Additionally, Coho Salmon and Splake harvest estimates and harvest rates were higher than each of the previous four seasons. However, Brown Trout, Lake Whitefish and Yellow Perch harvest estimates and harvest rates were all lower than their respective five-year averages.

ICE ≥ 60 FEET - BOBBING

The Ice ≥ 60 feet - Bobbing fishery accounted for 18,909 angler-hours (7.1% of the total fishing effort in WI-2). This was the highest effort since 2018. Anglers in this fishery harvested 4,173 fish, or 6.6% of the total harvest in this management unit. Lake Whitefish (2,191) and Lake Trout (1,631) accounted for 91.6% of the harvest in this fishery. Overall harvest rate was 0.2207 fish/hour. Lake Whitefish harvest rate was highest (0.1159 fish/hour) followed by Lake Trout (0.0863 fish/hour).

In WI-2, the 2021 Ice ≥ 60 feet - Bobbing fishery total effort and total fish harvested were higher than the five-year average. Additionally, Lake Trout and Lake Whitefish harvest estimates were higher than the average over the past five seasons. However, the overall total fish harvest rate, Lake Trout harvest rate and Lake Whitefish harvest rate were all lower than the five-year average.

OPEN-WATER COLD

The Open-Water Cold fishery accounted for 85,424 angler-hours (32.2% of the total fishing effort in WI-2). Anglers in this fishery harvested 14,458 total fish (23.0% of the total harvest in WI-2). Lake Trout (8,135), Coho Salmon (4,174) and Brown Trout (1,110) were the top three species harvested and accounted for 92.8% of the harvest in this fishery. Overall harvest rate was 0.1692 fish/hour. Lake Trout harvest rate was the highest (0.0952 fish/hour) followed by Coho Salmon (0.0489 fish/hour) and Brown Trout (0.0130 fish/hour).

In WI-2, the 2021 Open-Water Cold fishery effort was similar to the five-year average. Likewise, Lake Trout and Coho Salmon harvest estimates and harvest rates were both similar to their respective five-year averages. However, total fish harvest and overall harvest rate were lower than average over the last five years. Brown Trout harvest and harvest rate were the lowest observed over the past five years.

OPEN-WATER COOL

The Open-Water Cool fishery accounted for 26,976 angler-hours (10.2% of the total fishing effort in WI-2). Anglers in this fishery harvested 2,481 total fish (3.9% of the total harvest in WI-2). Walleye (1,535), Yellow Perch (563) and Northern Pike (286) were the top three species harvested and accounted for 96.1% of the total harvest in this fishery. Walleye harvest was the highest since 2017. Overall harvest rate was 0.0920 fish/hour. Walleye harvest rate was highest (0.0569 fish/hour), followed by Yellow Perch (0.0209 fish/hour) and Northern Pike (0.0106 fish/hour).

In WI-2, the 2021 Open-Water Cool fishery effort and total fish harvest were lower than their respective averages over the last five seasons. However, the overall harvest rate of all fish was higher than the five-year average. Likewise, Walleye harvest and harvest rate were both higher than their respective five-year averages.

OPEN-WATER WHITEFISH

The Open-Water Whitefish fishery accounted for 6,536 angler-hours (2.5% of the total fishing effort in WI-2). The 2021 Open-Water Whitefish effort was 52% higher than the 2020 effort (4,300 angler-hours). Anglers in this fishery harvested 4,212 fish (6.7% of the total harvest in WI-2). Lake Whitefish represented the highest catch with a harvest of 4,128 (98.0% of the harvest in this fishery and 42.4% of the total Lake Whitefish harvest in WI-2). The 2021 Lake Whitefish harvest was 30.3% higher than 2020 (3,169) harvest in this fishery. The Lake Whitefish harvest rate of 0.6316 fish/hour was lower than 2020 (0.7370 fish/hour).

SMALLMOUTH BASS ONLY

The Smallmouth Bass Only fishery accounted for 21,878 angler-hours (8.2% of the total fishing effort in WI-2). This effort was higher than the previous two years (2020 = 19,273 angler/hours, 2019 = 14,525 angler hours). Most of this effort occurs in May and June from anglers fishing the eastern side of Chequamegon Bay. No Smallmouth Bass harvest was observed during the 2021 Creel Survey.

CHARTER

The Charter fishery accounted for 9,383 angler-hours (3.5% of the total fishing effort in WI-2). This represented the highest amount of effort in the Charter fishery since 2000. Anglers in this fishery harvested 2,810 fish (4.5% of the total harvest in WI-2). Lake Trout (2,034), Coho Salmon (460) and Brown Trout (242) accounted for 97.4% of the harvest in this fishery. Overall harvest rate was 0.2995 fish/hour. Lake Trout harvest rate was the highest (0.2168 fish/hour) followed by Coho Salmon (0.0490 fish/hour) and Brown Trout (0.0258 fish/hour).

In WI-2, the 2021 Charter effort was higher than each of the previous four years, but total fish harvest and Lake Trout harvest was similar to the five-year average. In addition, the overall harvest rate and the Lake Trout harvest rate was lower than each of the previous four years.

LAKE TROUT FISHERY

WI-1

Daily bag limit: 3, minimum length limit: 15 inches, only one > 25 inches

The estimated Lake Trout harvest by sport anglers fishing in WI-1 was 3,282 fish (Figure 6). This was similar to the five-year average of 3,338 fish but lower than the long-term average (i.e., since 2006; Figure 7). The Open-Water Cold fishery represented the highest harvest (2,593) followed by the Charter (508) and the Open-Water Cool fisheries (181).

The overall Lake Trout harvest rate in WI-1 was 0.0509 fish/hour. This was lower than five-year average of 0.0614 fish/hour. The Charter fishery had the highest Lake Trout harvest rate (0.1679 fish/hour) followed by the Open-Water Cold fishery (0.0722 fish/hour) and the Open-Water Cool fishery (0.0071 fish/hour; Figure 8). The Charter Lake Trout harvest rate was lower than the five-year average, and the Open-Water Cold fishery Lake Trout harvest rate was lower than the five-year average and the long-term average.

WI-2

Daily bag limit: 2, minimum length limit: 15 inches, only one > 25 inches

In 2021, the trigger to the sport-fishing allotment of the overall WI-2 Lake Trout quota was reached before the end of the Lake Trout season (Sept. 30), prompting an early closure to the WI-2 Lake Trout fishery on Aug. 16, 2021. Good ice conditions (reaching deeper water for bobbing) and much warmer-than-average water temperatures in the spring resulted in high harvest numbers in February, May and June and set the pace for the rest of the season. Harvest rates did drop off to below average in the middle of summer, but not enough to prevent the early season closure. The total estimated Lake Trout harvest of 12,336 filled approximately 97.4% of the 12,667 annual sport fishing allotment of the overall harvest quota in WI-2.

The estimated total Lake Trout harvest by sport anglers fishing in WI-2 (12,336 fish) was lower than last season's total harvest of 13,185 but higher than the five-year average (Figure 6). Both Lake Trout harvest and harvest rate in WI-2 were slightly lower than the long-term average (i.e., since 2006; Figure 7). The Open-Water Cold Fishery represented the highest Lake Trout harvest (8,135), followed by the Charter fishery (2,034), Ice $\geq$ 60 feet - Bobbing (1,631), Ice < 60 feet – Shallow (460), Open-Water Whitefish (43) and the December Open-Water fisheries (33).

The overall Lake Trout harvest rate was 0.0465 fish/hour. This was lower than the five-year average Lake Trout harvest rate (0.0514 fish/hour). The Charter fishery had the highest Lake Trout harvest rate of all fisheries in the WI-2 Creel Survey (0.2168 fish/hour: Figure 8). This was lower than each of the previous four years. The Open-Water Cold fishery represented the second-highest Lake Trout harvest rate in 2021 (0.0952 fish/hour), which was similar to both the five-year and long-term averages (Figure 7). The Ice $\geq$ 60 feet - Bobbing fishery had the third-highest Lake Trout harvest rate in 2021 (0.0863 fish/hour). The December Open-Water fishery had the fourth-highest Lake Trout harvest rate (0.0291 fish/hour).

ACKNOWLEDGEMENTS

I thank the creel clerks. They work hard obtaining accurate data for the survey and play an important role by having positive interactions with the public. Their effort is greatly appreciated. The creel clerks involved for this report were: Mark Hanson (December Open-Water; Winter Creel: Ashland, Washburn – Red Cliff), Dean Kolpin (Open-Water: Saxon; Winter Creel: Saxon, Ashland), Jared Myers (Open-Water: Ashland, Washburn), Devin Engel (Open-Water: Bayfield, Little Sand Bay, Red Cliff, Cornucopia, Port Wing), Emily Hutler, Aidan Waterhouse and Abi Fountain (Open-Water: Superior). I would also like to thank Dr. Derek Ogle of Northland College, who developed the original functions used to calculate creel statistics, randomize creel schedules, etc. in the statistical program R. I would also like to thank Dray Carl for his help with the statistical program R and for reviewing and editing this report.

Note: For more detailed breakdowns of the DNR Lake Superior Creel Survey results, please refer to the Lake Superior Supplemental Creel Report 2021.

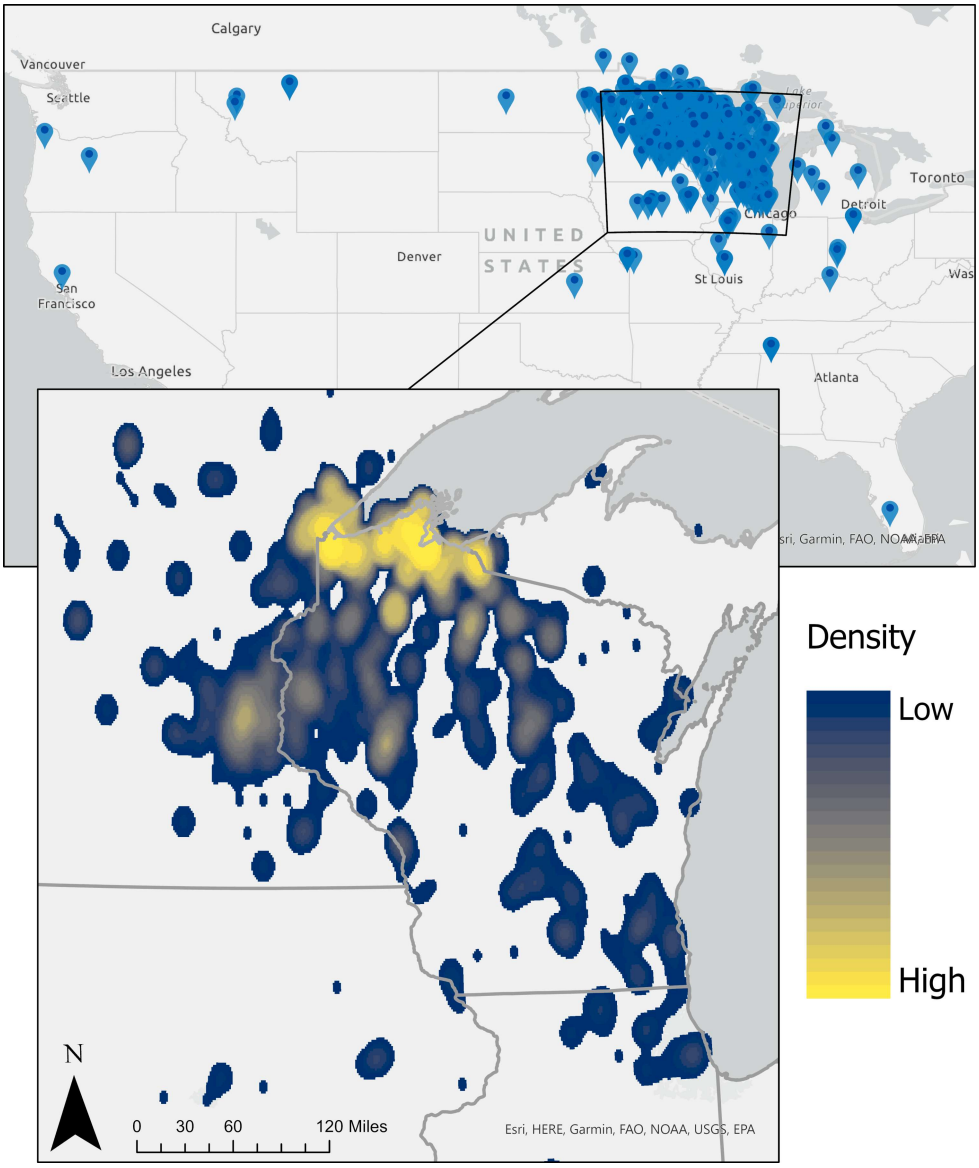

Figure 2. Density of primary residences of Lake Superior anglers interviewed in the 2021 Creel Survey fishing Wisconsin waters. Residences were determined based on zip codes provided during creel interviews. Yellow shades represent areas of higher density, blue shades represent areas of lower density and grey represents areas with no data in 2021.

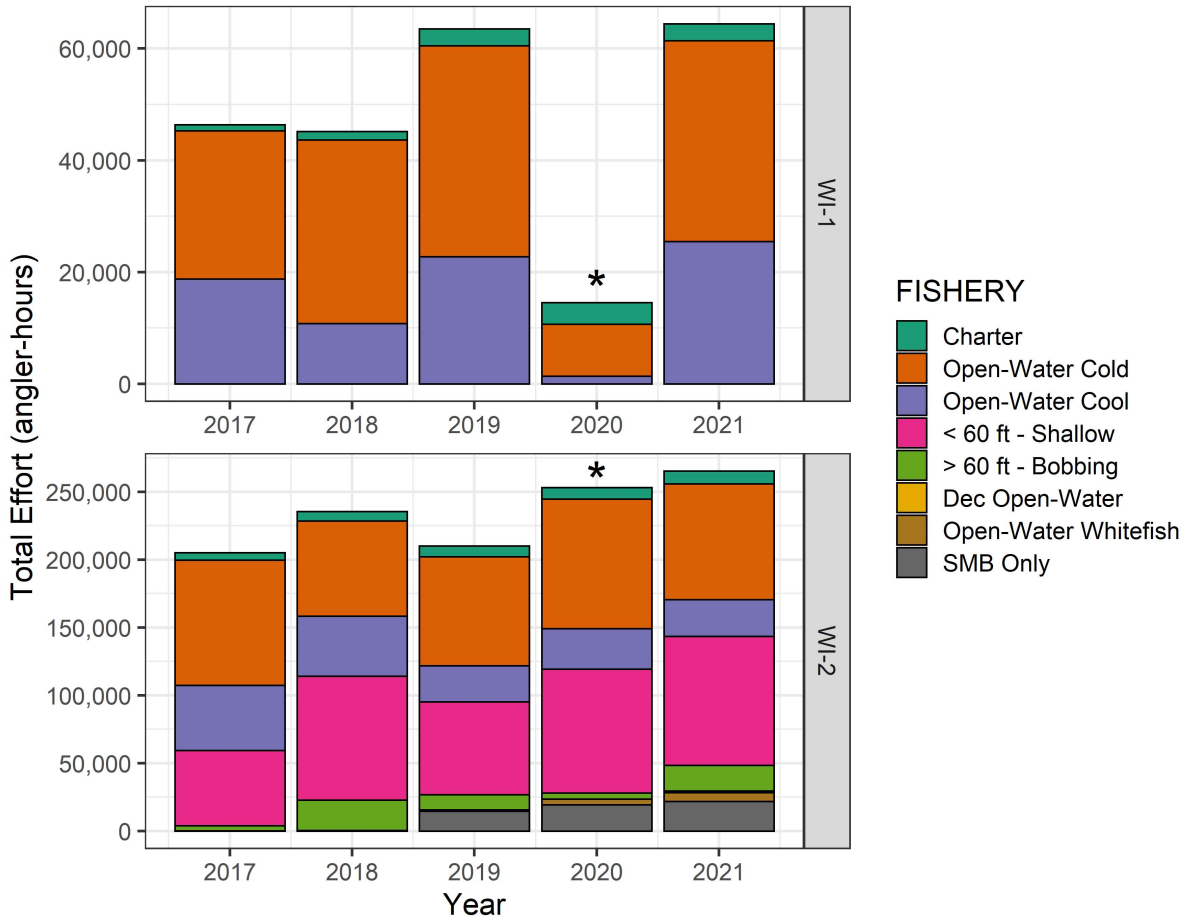

Figure 3. Total estimated fishing effort (angler-hours) by each fishery sampled in the DNR Creel Survey within each management unit (WI-1 and WI-2) from 2017 to 2021.

Note: In WI-1, the Superior creel route was not completed in 2020. In WI-2, averages of "Open-Water" fisheries (does not include Charter) from 2017 to 2019 were used to estimate April, May and June values in 2020. Both of these changes were due to COVID-19 restrictions.

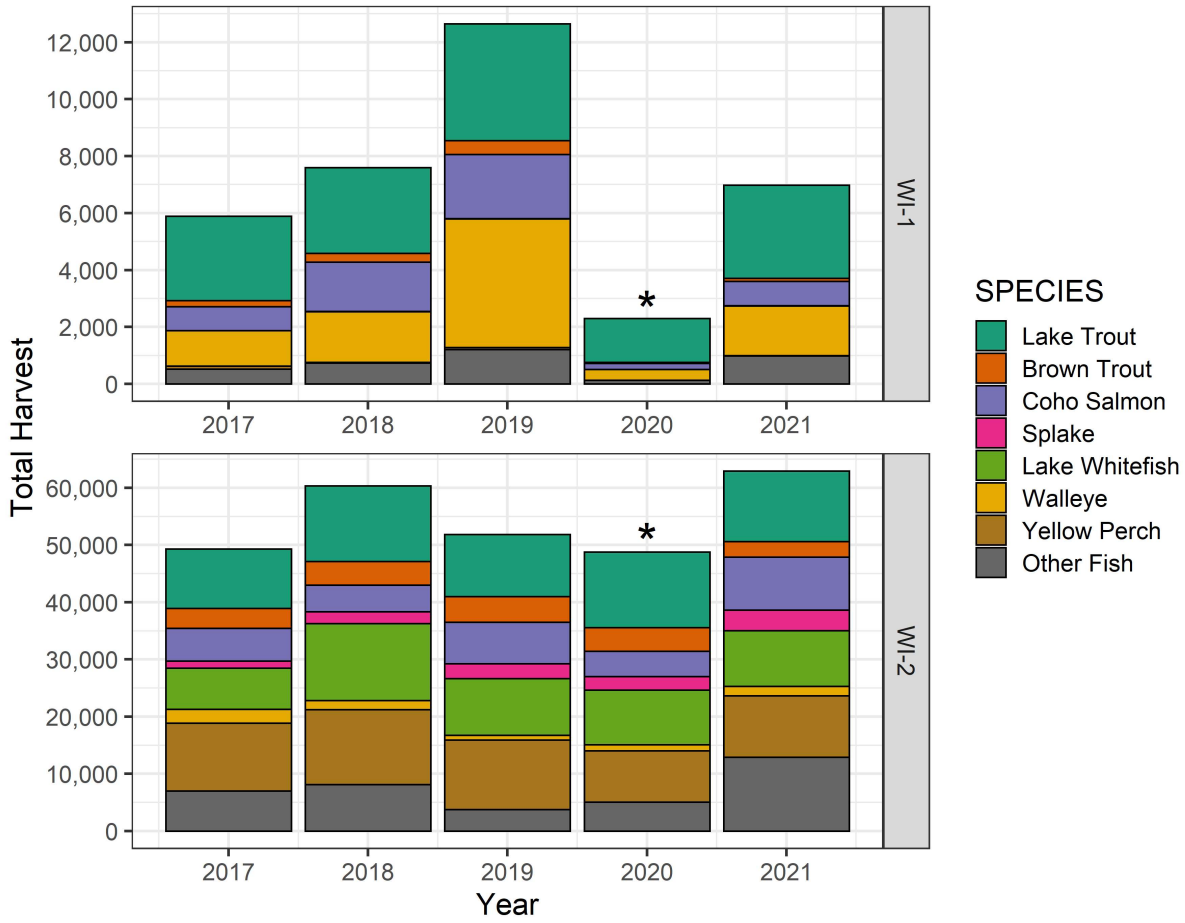

Figure 4. Total estimated harvest of the main seven species in the DNR Creel Survey within each management unit (WI-1 and WI-2) from 2017 to 2021. All other species are represented into the "Other Fish" category.
Note: In WI-1, the Superior creel route was not completed in 2020. In WI-2, averages of "Open-Water" fisheries (does not include Charter) from 2017 to 2019 were used to estimate April, May and June values in 2020. Both of these changes were due to COVID-19 restrictions.

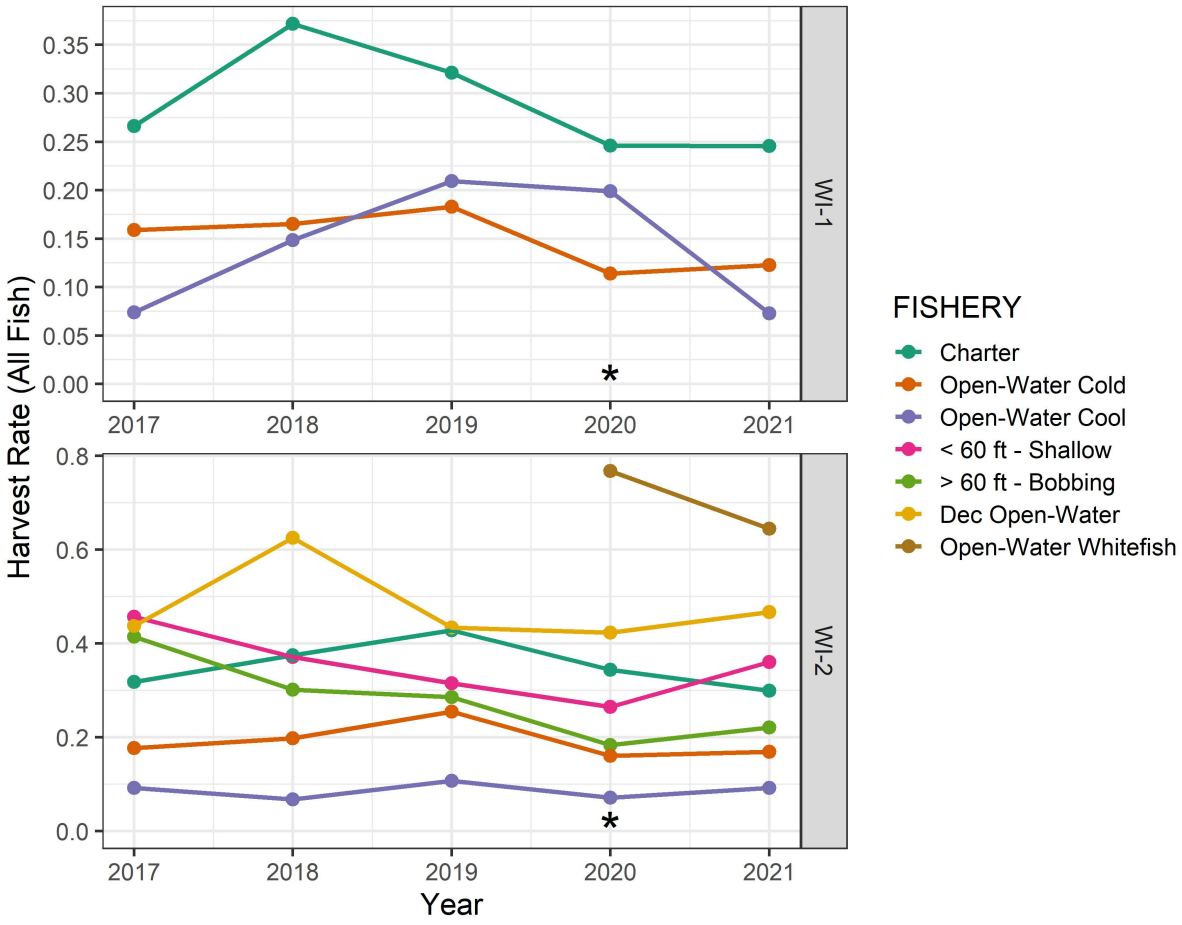

Figure 5. Estimated harvest rate (fish per angler-hour) of all fish within each fishery sampled in the DNR Creel Survey within each management unit (WI-1 and WI-2) from 2017 to 2021.
Note: In WI-1, the Superior creel route was not completed in 2020. In WI-2, averages of "Open-Water" fisheries (does not include Charter) from 2017 to 2019 were used to estimate April, May and June values in 2020. Both of these changes were due to COVID-19 restrictions.

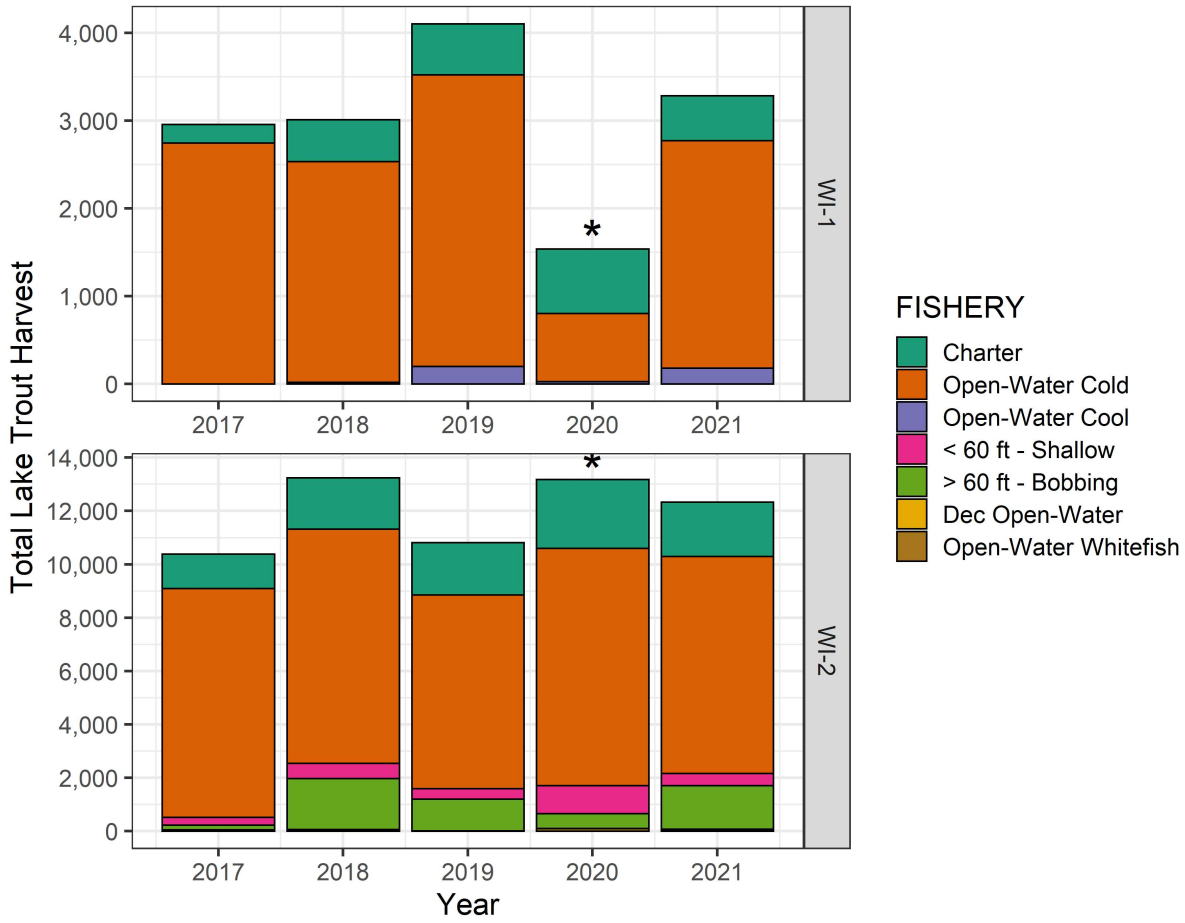

Figure 6. Total estimated harvest of Lake Trout by each fishery sampled in the DNR Creel Survey within each management unit (WI-1 and WI-2) from 2017 to 2021.

Note: In WI-1, the Superior creel route was not completed in 2020. In WI-2, averages of "Open-Water" fisheries (does not include Charter) from 2017 to 2019 were used to estimate April, May and June values in 2020. Both of these changes were due to COVID-19 restrictions.

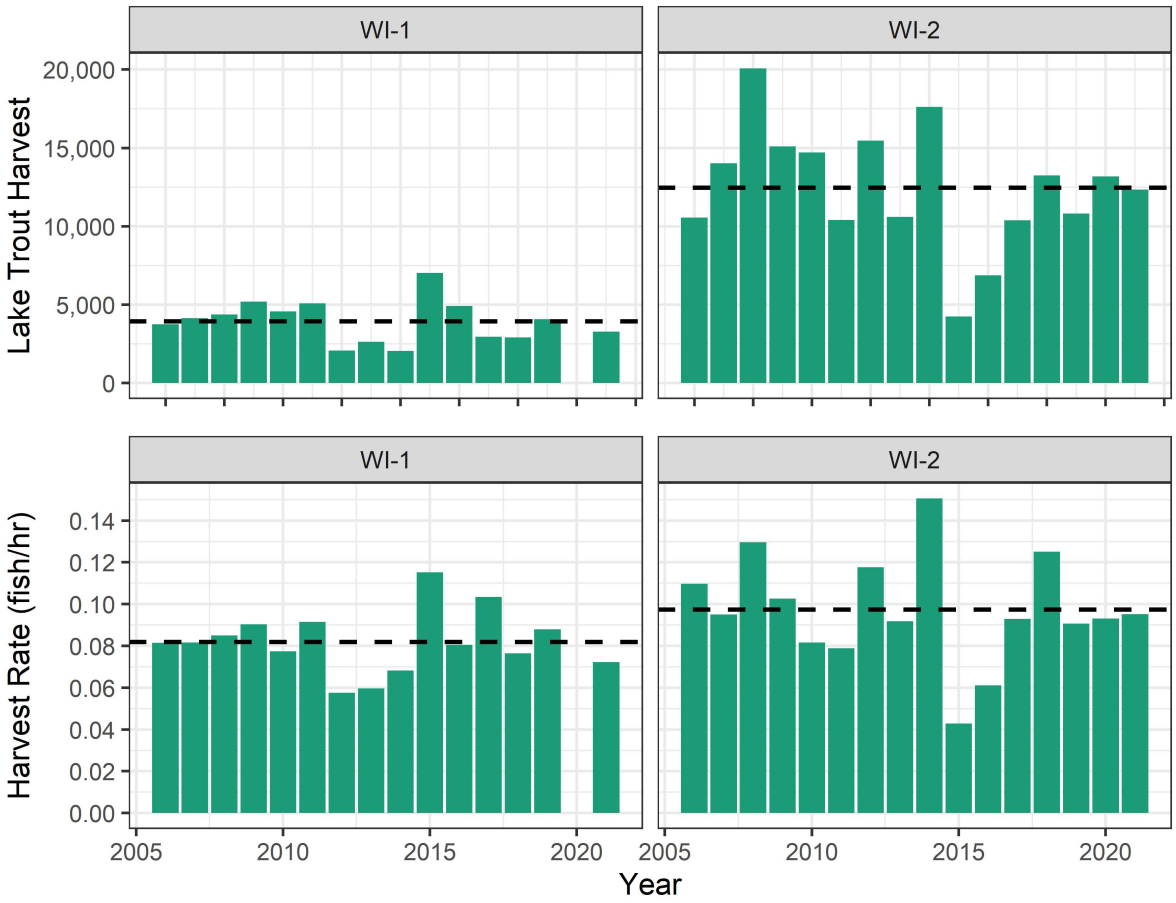

Figure 7. Estimated Lake Trout harvest (top) and harvest rate (bottom; fish per angler-hour) in management unit WI-1 (left) and WI-2 (right) from 2006 to 2021. Total harvest is from all fisheries sampled in the DNR Creel Survey, and harvest rate is from the Open-Water Cold fishery. Dashed lines are average values from throughout the time series.
Note: In WI-1, the Superior creel route was not completed in 2020. In WI-2, averages of "Open-Water" fisheries (does not include Charter) from 2017 to 2019 were used to estimate April, May and June values in 2020. Both of these changes were due to COVID-19 restrictions.

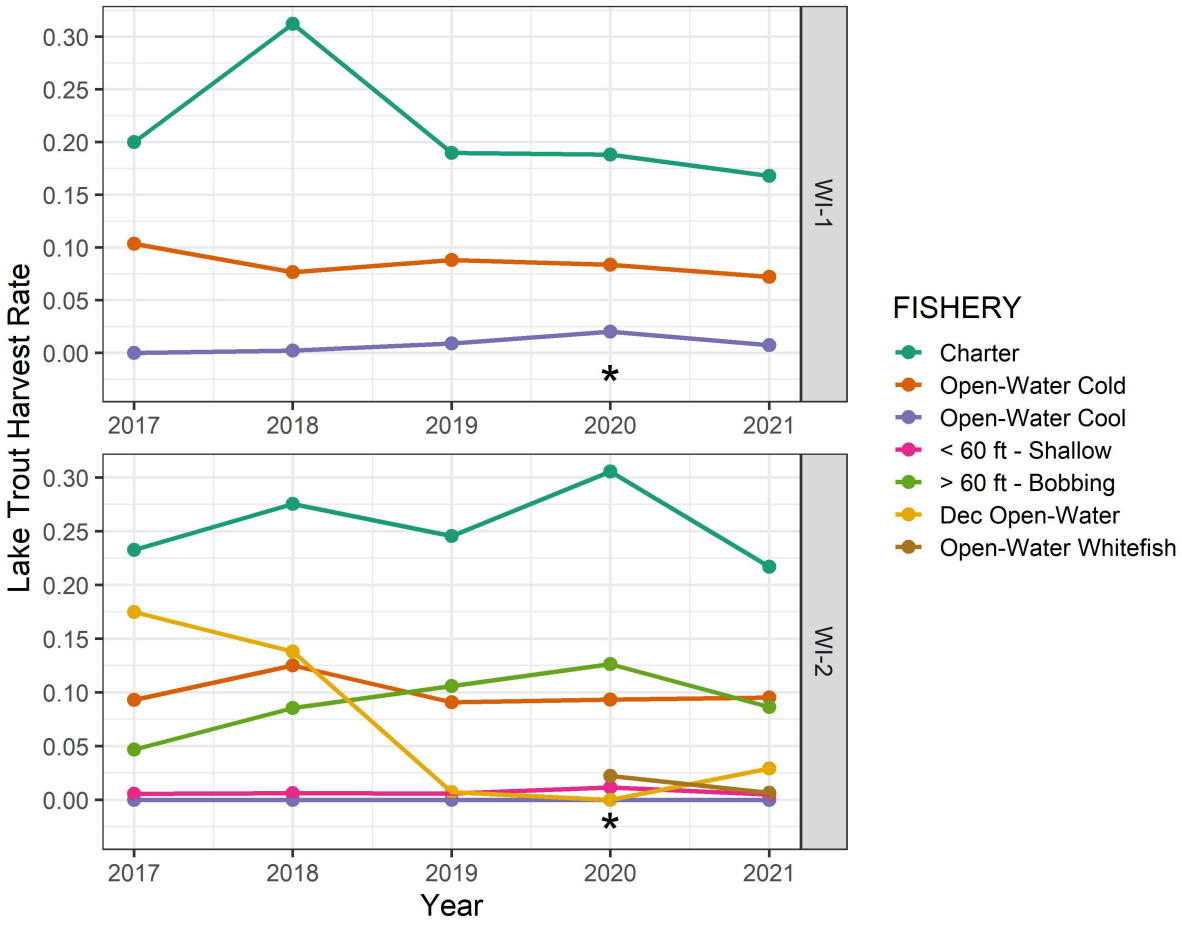

Figure 8. Estimated harvest rate (fish per angler-hour) of Lake Trout by each fishery sampled in the DNR Creel Survey within each management unit (WI-1 and WI-2) from 2017 to 2021.
Note: In WI-1, the Superior creel route was not completed in 2020. In WI-2, averages of "Open-Water" fisheries (does not include Charter) from 2017 to 2019 were used to estimate April, May and June values in 2020. Both of these changes were due to COVID-19 restrictions.