

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

LAKE SUPERIOR CHARTER FISHING REPORT 2022

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METHODS

In the 2022 fishing season, 25 active licensed charter captains operated in the Wisconsin waters of Lake Superior. Harvest estimates for guided charters came from mandatory monthly reports initiated in 1973. Information on the number of anglers, hours fished, location (grid) and number of various species harvested was included in the Sport Trolling License Monthly Report (Form 9400-249). Charter reports from October and November were not used in this report due to the closure of the Lake Trout sport fishing season during this period. 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). Charter results were therefore separated by management unit.

Please note that the charter fishing data alone may not perfectly illustrate the status of the entire recreational fishery each year. Please refer to the Lake Superior Creel Report 2022 for more detailed numbers for harvest estimates of all species in the recreational fishery. All analyses were conducted in Program R, and the report was formatted using RMarkdown.

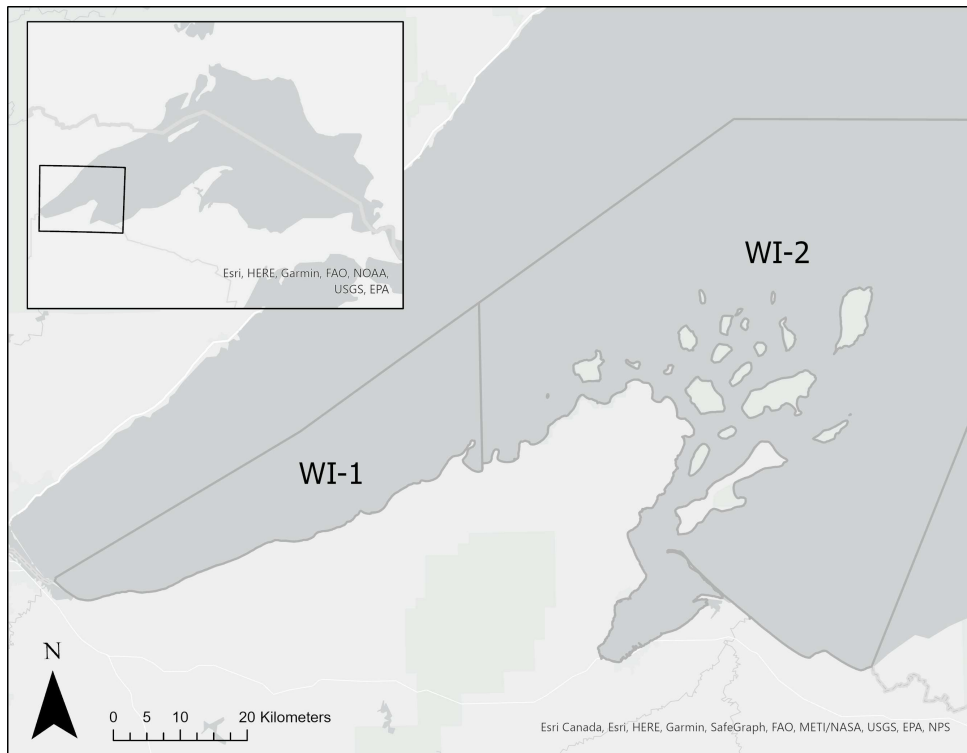


Figure 1. Wisconsin waters of Lake Superior and management units WI-1 and WI-2.

Results

WI-1

There was a total charter effort of 1,972 angler hours in management unit WI-1 in 2022, which is below the long-term average (Figure 2). This effort yielded a total of 542 harvested fish, including 373 Lake Trout, 69 Coho Salmon and 68 Walleye (Figure 3). The Lake Trout harvest was slightly lower than in 2021 and below average (Figures 3 and 4). In addition, the 2022 Coho Salmon harvest was near average, and the 2022 Walleye harvest was above average (Figure 3). The annual Lake Trout harvest rate in the 2022 charter fishing season was 0.1891 fish per angler-hour, which was below average for the time series (Figure 5). The Lake Trout charter harvest in WI-1 was below average in all months (May-September) in 2022 (Figure 6). Lastly, the Lake Trout harvest rate was variable among months but generally below monthly averages in WI-1 in 2022 (Figure 7).

WI-2

There was a total charter effort of 9,946 angler hours in management unit WI-2 in 2022, the highest effort on record going back to 2000 (Figure 2). Charter effort in WI-2 has increased each year since 2017. This effort yielded a total of 3,202 harvested fish including 2,534 Lake Trout, 370 Coho Salmon and 175 Brown Trout (Figure 3). The Lake Trout harvest was above average and the second-highest annual harvest in the time series (Figures 3 and 4). In addition, both the 2022 Coho Salmon and Brown Trout harvests were above average (Figure 3). The annual Lake Trout harvest rate in the 2022 charter fishing season was 0.2536 fish per angler hour, which was near average (Figure 5). The Lake Trout charter harvest was near or above average in all months (May-September) in WI-2 in 2022 (Figure 6). Lastly, the Lake Trout harvest rate in the 2022 charter fishery was below average in May-July but picked up to above average in August and September (Figure 7).

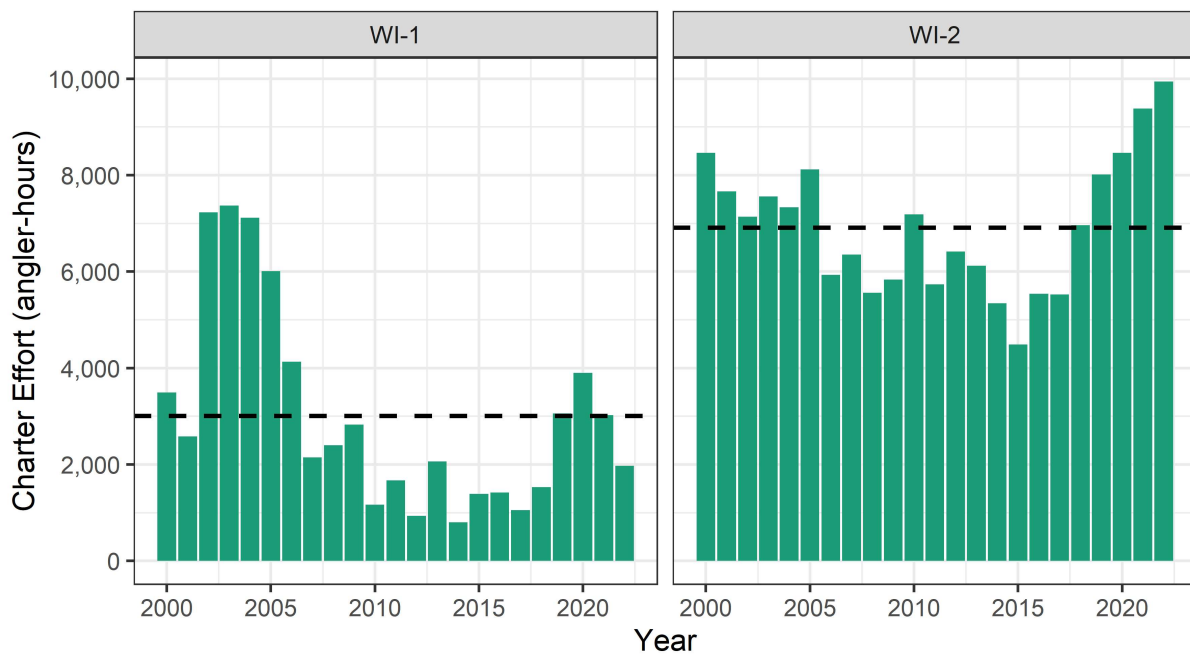


Figure 2. Charter angler effort (angler hours) annually from 2000 to 2022 in management unit WI-1 (left) and WI-2 (right). Dashed lines represent mean annual effort for each management unit throughout the time series.

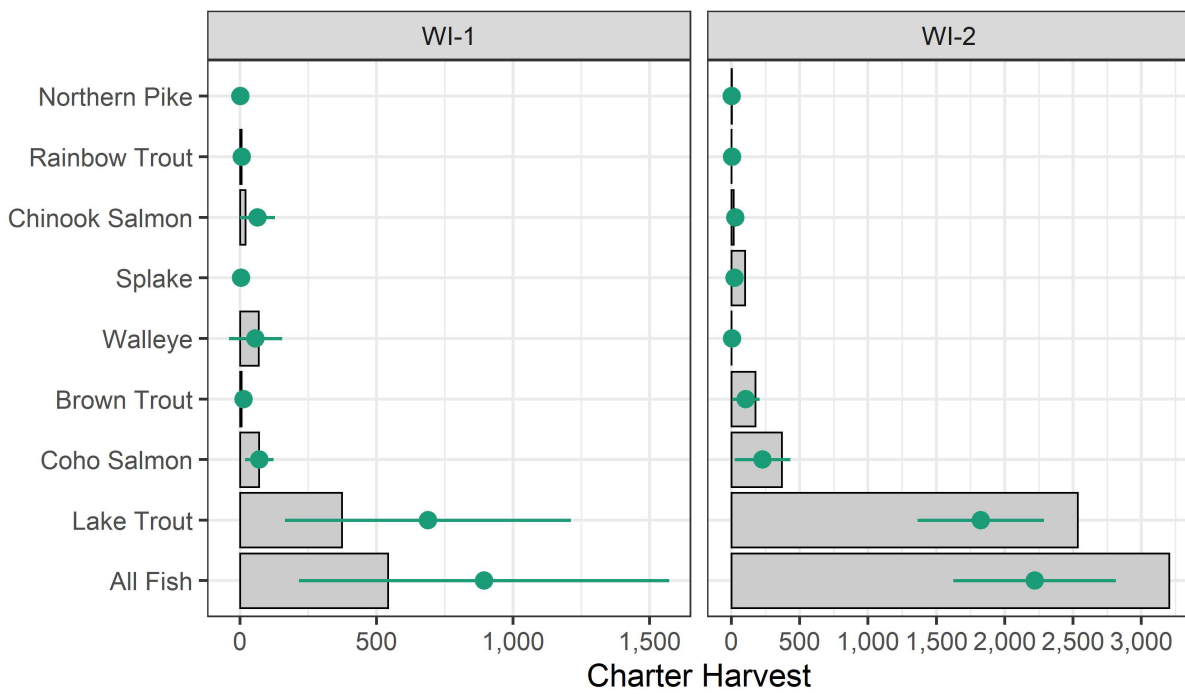


Figure 3. Charter harvest by species during the 2022 charter fishing season by management unit (WI-1 and WI-2). Green points and lines represent the annual mean since 2000 (+/- one standard deviation).

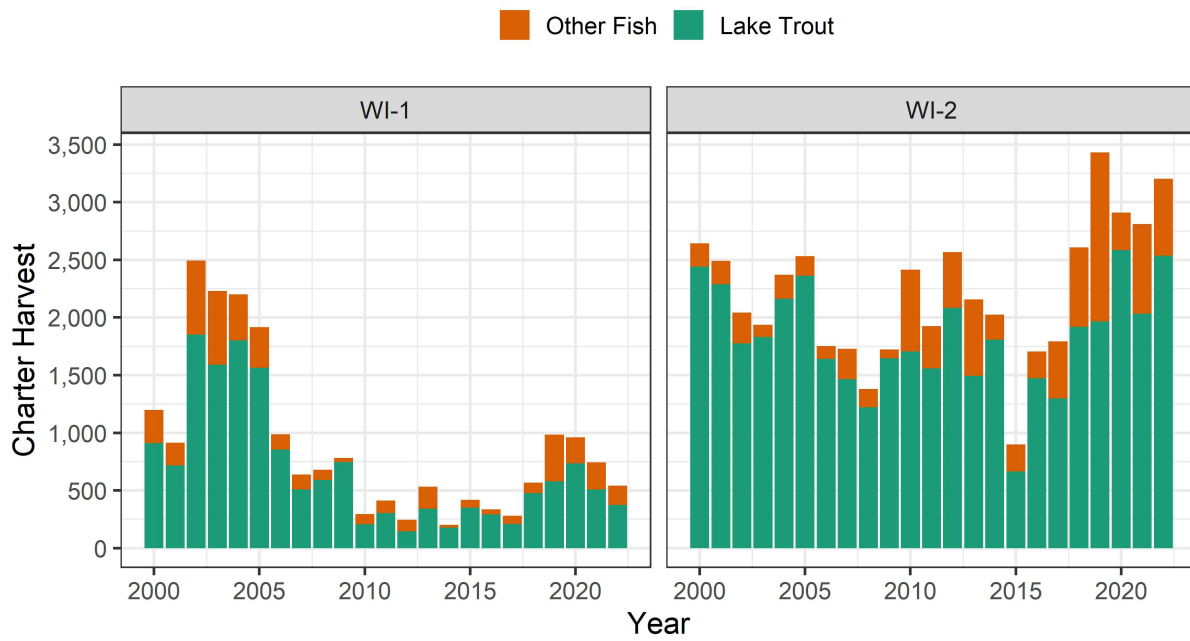


Figure 4. Annual harvest of Lake Trout (green) and all other fish (orange) in WI-1 (left) and WI-2 (right) during the charter fishing season from 2000 to 2022.

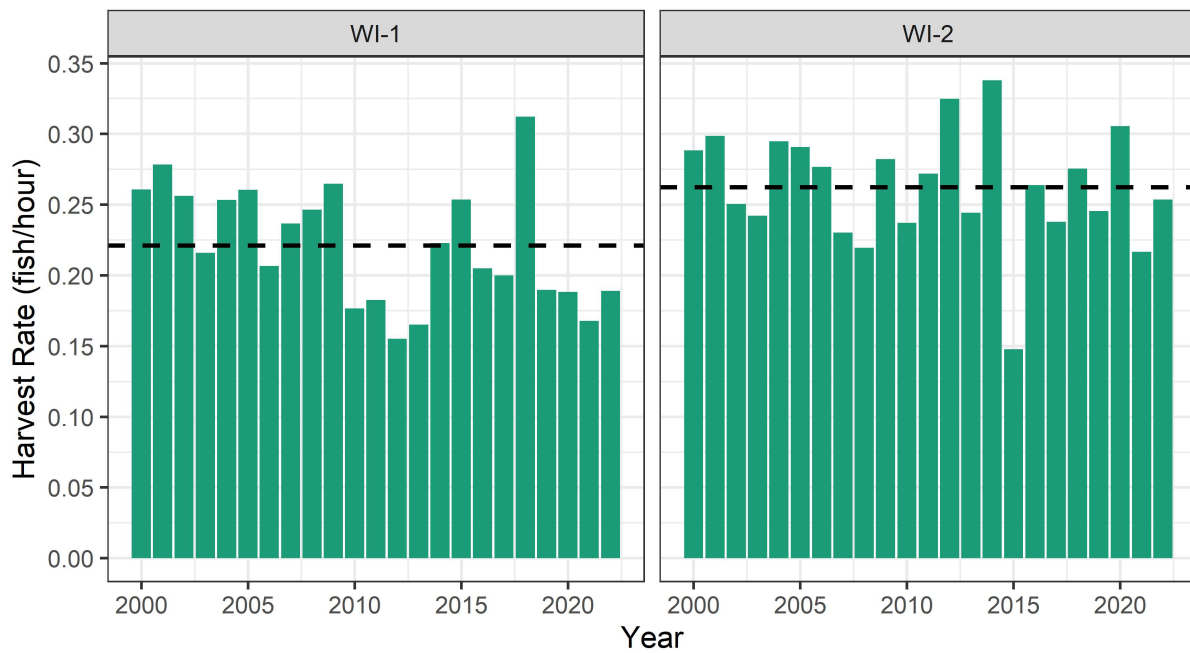


Figure 5. Annual harvest rate (fish/angler hour) of Lake Trout in WI-1 (left) and WI-2 (right) during the charter fishing season from 2000 to 2022. Dashed lines represent mean annual harvest rate for each management unit throughout the time series.

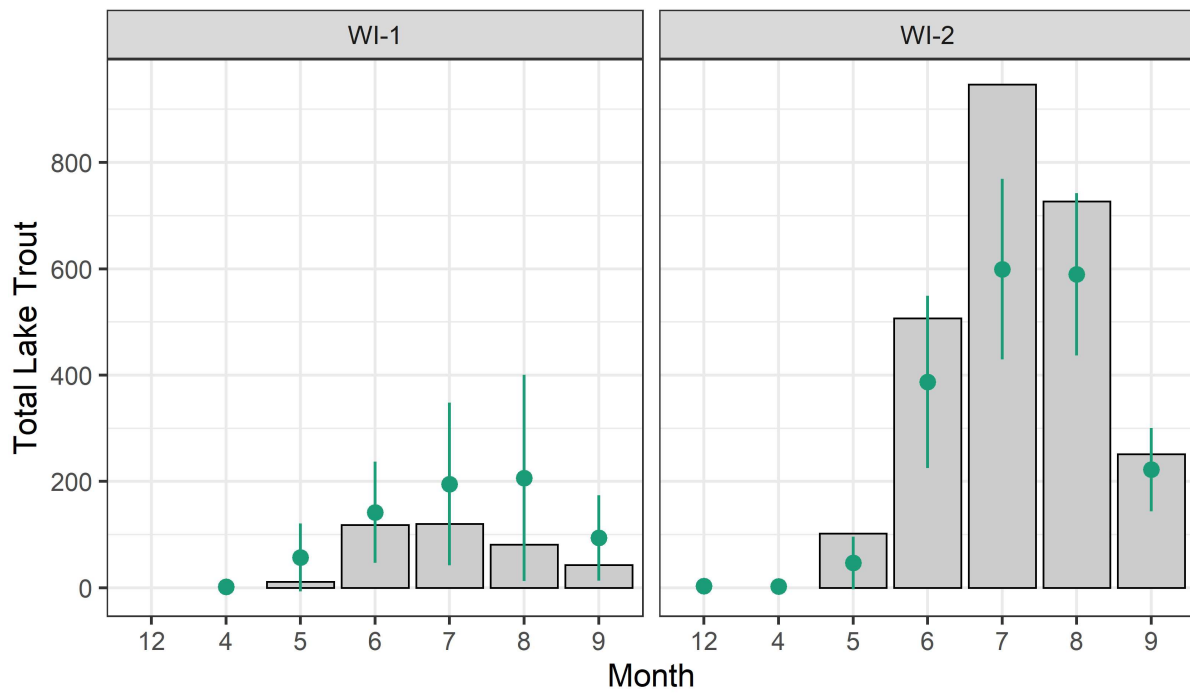


Figure 6. Lake Trout harvest by month during the 2022 charter fishing season in management unit WI-1 (left) and WI-2 (right). Green points and lines represent the mean (+/- one standard deviation) lake trout harvest by month since 2000.

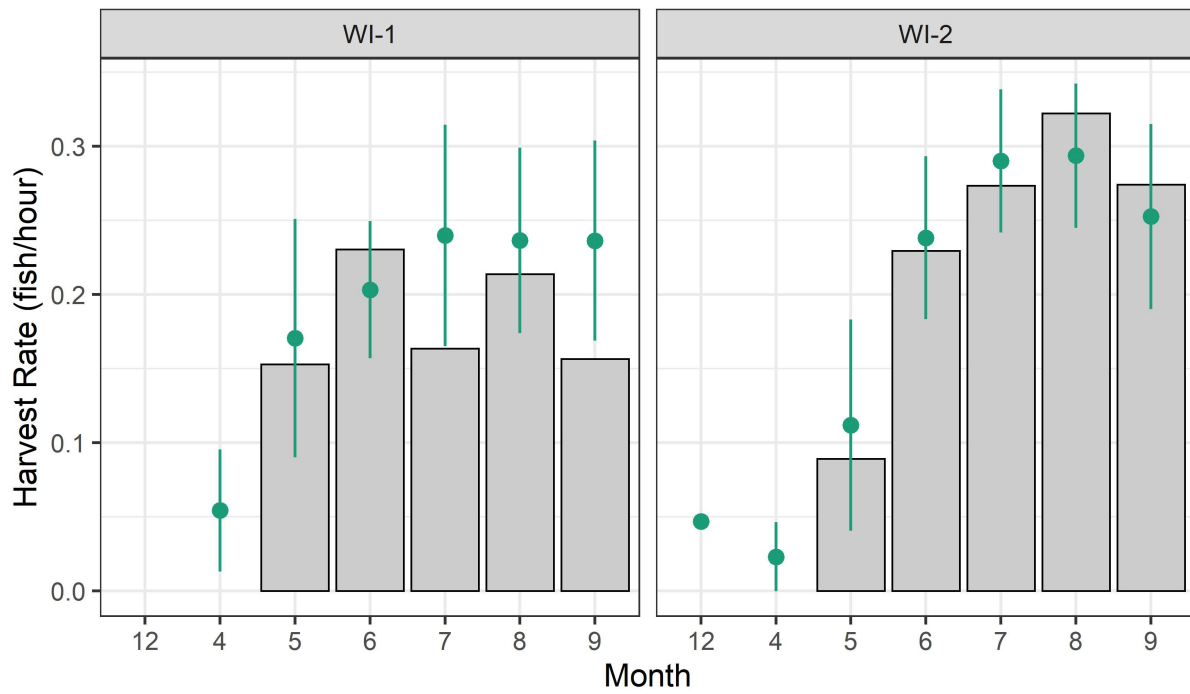


Figure 7. Lake Trout harvest rate (fish per angler hour) by month during the 2022 charter fishing season in management unit WI-1 (left) and WI-2 (right). Green points and lines represent the mean (+/- one standard deviation) lake trout harvest rate by month since 2000.