

WDNR Lake Superior Charter Fishing Report 2020

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Methods

There were 26 active licensed charter captains that operated in Wisconsin waters of Lake Superior during the 2020 fishing season. This was the most active licenses since 2005. 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 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 time 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.

It should be noted 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 2020 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.

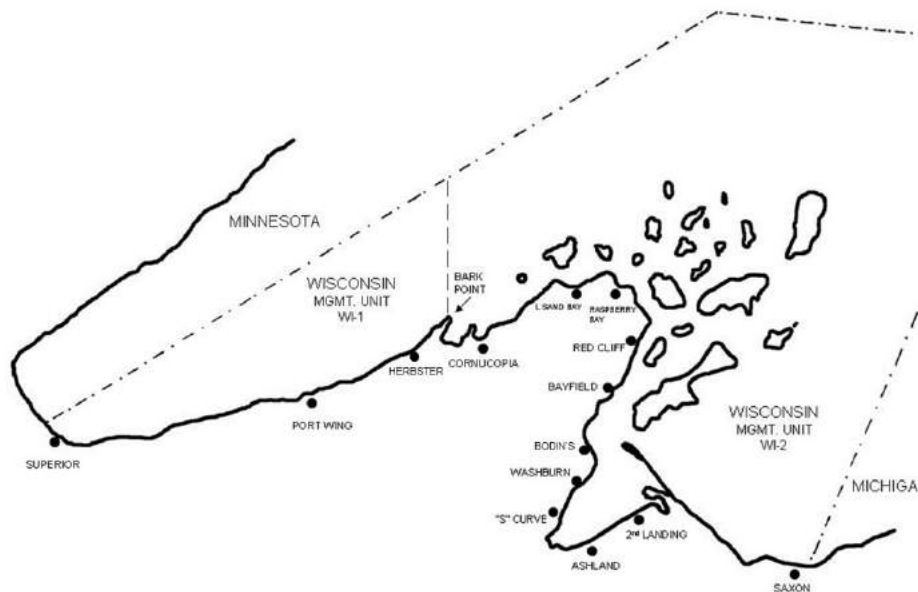


Figure 1. Wisconsin waters of Lake Superior, management units WI-1 and WI-2, and major ports in the WDNR Creel Survey.

Results

WI-1

There was a total charter effort of 3,900 angler-hours in management unit WI-1 in 2020, the highest effort since 2006 (Figure 2). This effort yielded a total of 960 harvested fish including 734 Lake Trout, 38 Coho Salmon, and 107 Walleye (Figure 3). This was the highest Lake Trout harvest since 2009, and total fish harvest was near the average of the 20-year time series (Figure 4). The 2020 Coho Salmon harvest was below average, and the 2020 Walleye harvest was above average (Figure 3). Annual harvest rate in the 2020 charter fishing season was 0.2462 fish per angler-hour for all fish combined and 0.1882 fish per angler-hour for Lake Trout, both below average for the time series (Figure 4). Lake Trout charter harvest rate was higher than average in May but lower than average in later summer months in WI-1 in 2020 (Figure 5).

WI-2

There was a total charter effort of 8,461 angler-hours in management unit WI-2 in 2020, the highest effort on record going back to 2000 (Figure 2). This effort yielded a total of 2,909 harvested fish including 2,586 Lake Trout, 127 Coho Salmon, and 131 Brown Trout (Figure 3). This was the second highest total harvest and highest Lake Trout harvest on record going back to 2000 (Figure 4). The 2020 Coho Salmon harvest was below average, and the Brown Trout harvest was slightly above average (Figure 3). Annual harvest rate in the 2020 charter fishing season was 0.3438 fish per angler-hour for all fish combined and 0.3056 fish per angler-hour for Lake Trout; both were above average (Figure 4). Lake Trout charter harvest and harvest rate were higher than average in all months in WI-2 in 2020 (Figure 5).

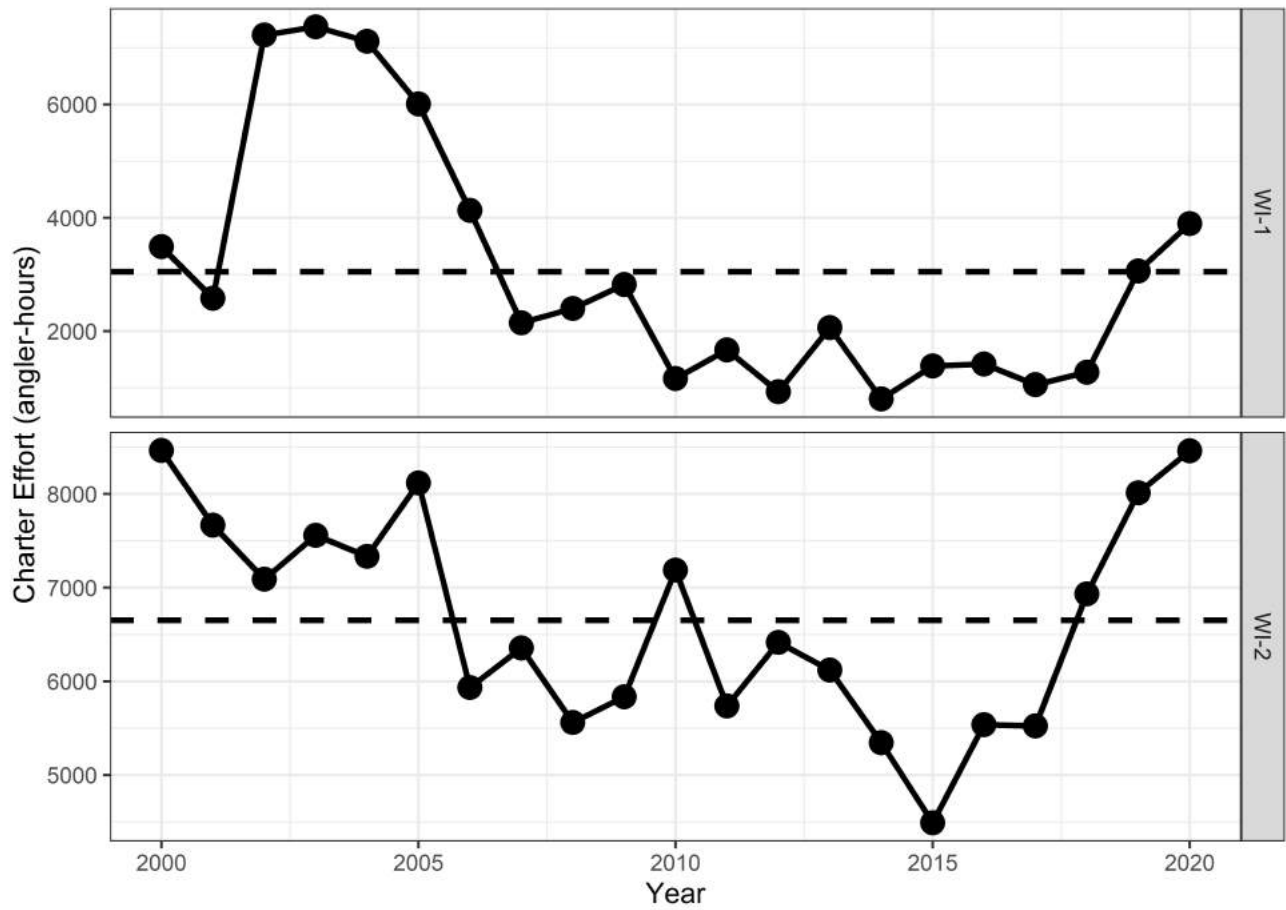


Figure 2. Charter angler effort (angler-hours) annually from 2000 to 2020 within each management unit (WI-1 and WI-2). Dashed lines are the mean effort for each management unit throughout the time series.

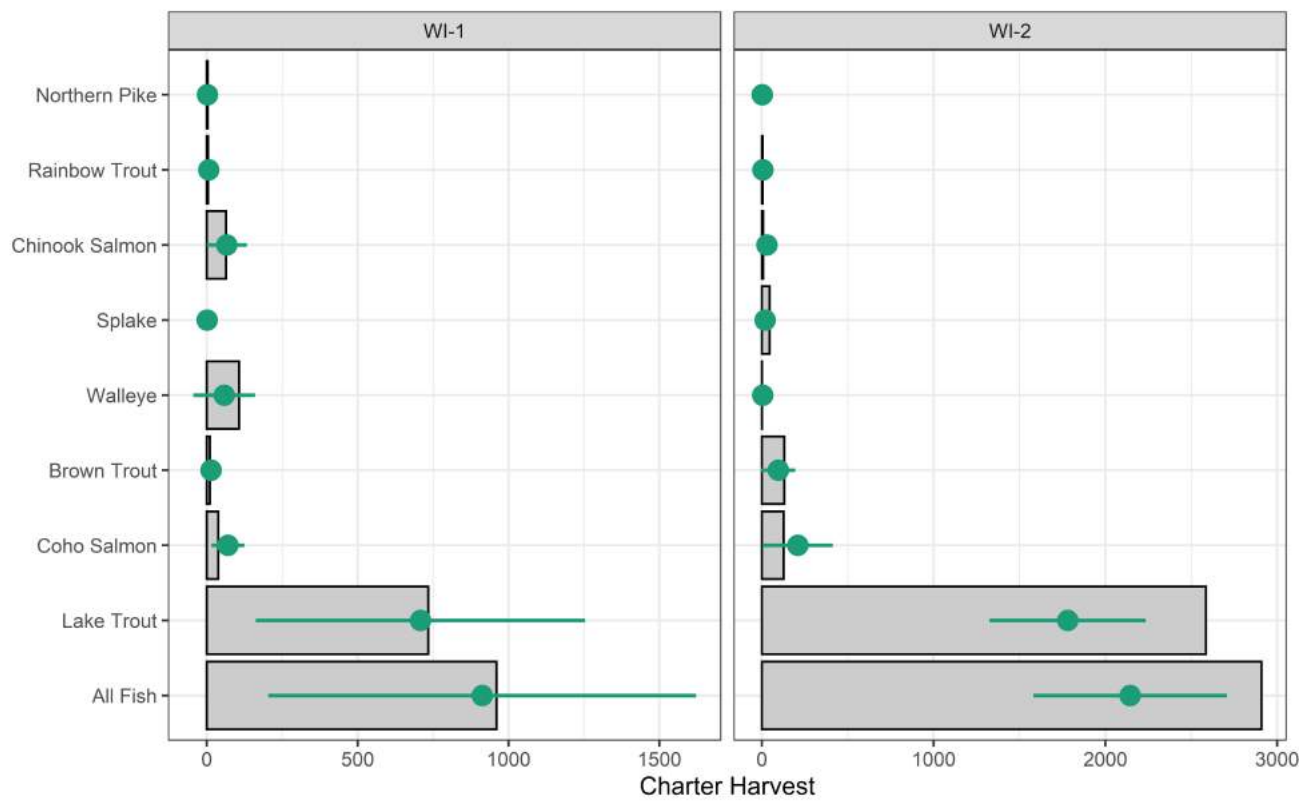


Figure 3. Charter harvest by species during the 2020 charter fishing season by management unit (WI-1 and WI-2). Green points and lines represent the annual mean since 2000 (+/- one standard deviation).

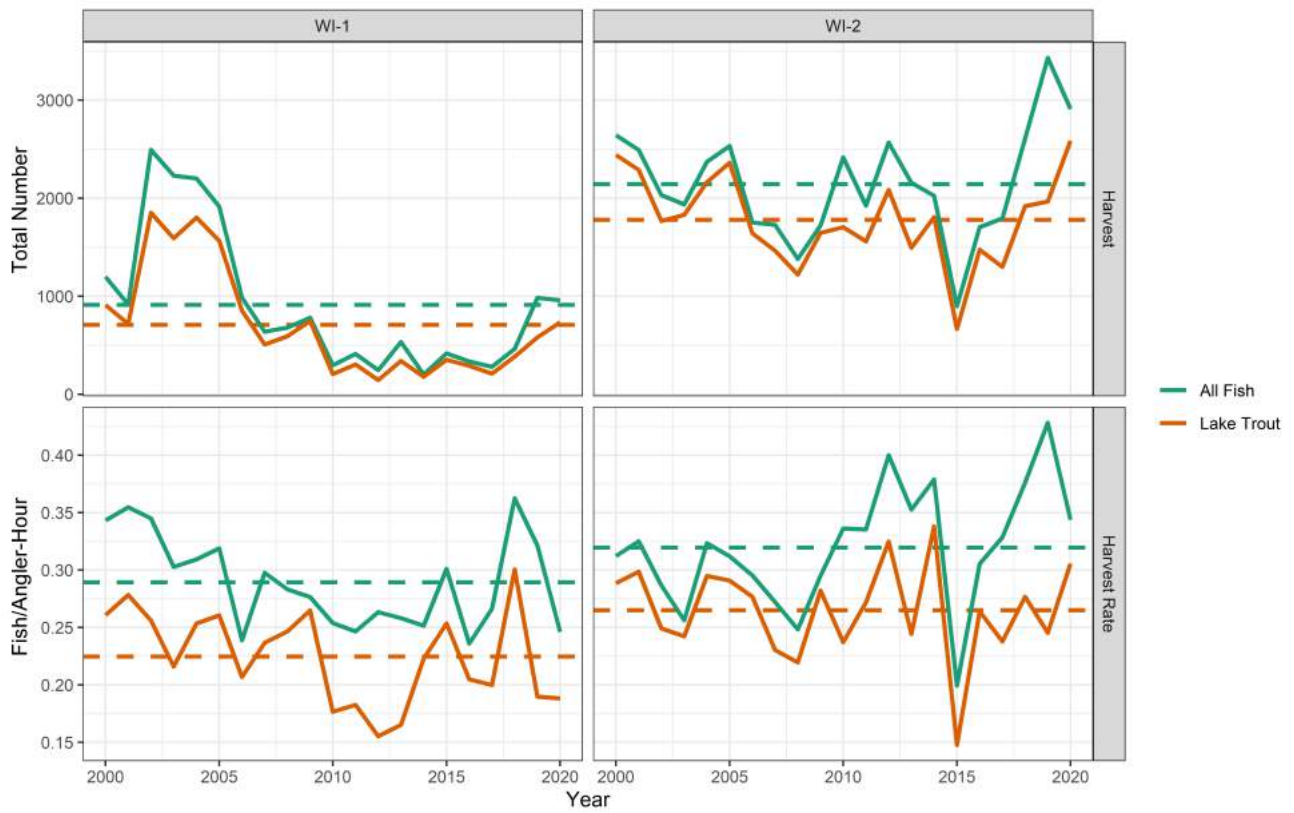


Figure 4. Annual harvest (top) and harvest rate (fish/angler-hour; bottom) of lake trout (orange) and all fish (green) combined during the entirety of the charter fishing season from 2000 to 2020. Dashed lines represent mean annual harvest (top) and mean annual harvest rate (bottom) throughout the time series.

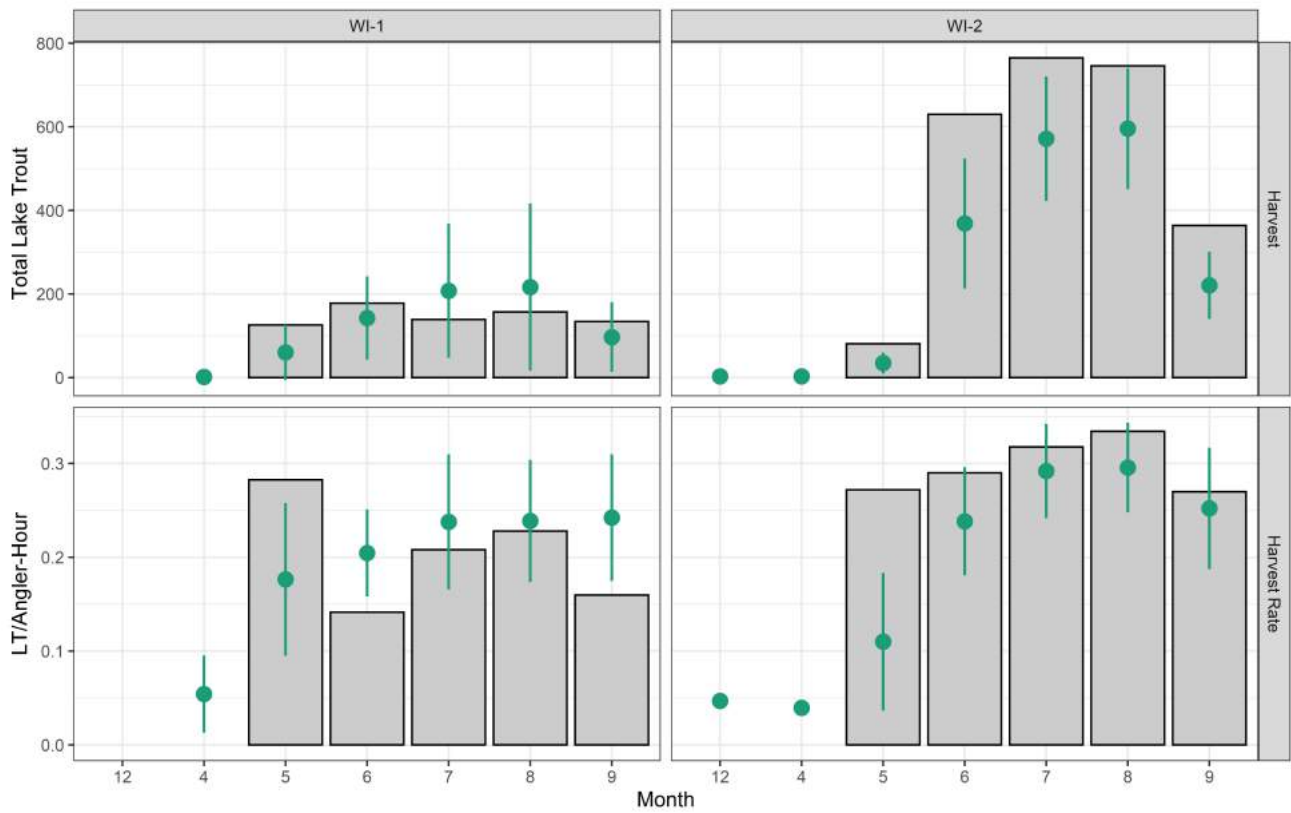


Figure 5. Lake Trout harvest (top) and harvest rate (fish/angler-hour; bottom) by month during the 2020 charter fishing season for each management unit (WI-1 and WI-2). Green points and lines represent the mean (+/- one standard deviation) lake trout harvest and harvest rate by month since 2000.