STATUS OF SEA LAMPREY CONTROL IN LAKE SUPERIOR

Adult Sea Lamprey:

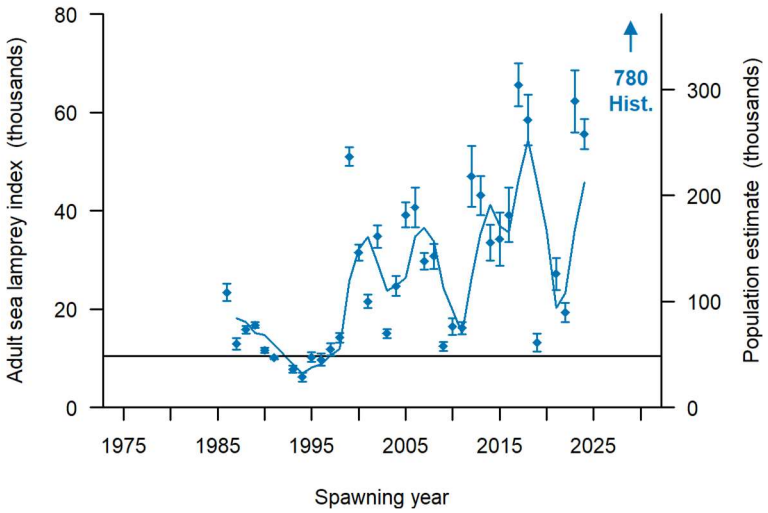

Figure 1. Index estimates with 95% confidence intervals (vertical bars) of adult sea lampreys, including historic pre-control abundance (as a population estimate) and the three-year moving average (line). The population estimate scale (right vertical axis) is based on the index-to-PE conversion factor of 4.64. The adult index in 2024 was 56,000 with 95% confidence interval (52,000-59,000). The three-year (2022-2024) average of 46,000 was above the target of 10,000. The index target was estimated as the mean of indices during a period with acceptable marking rates (1994-1998).

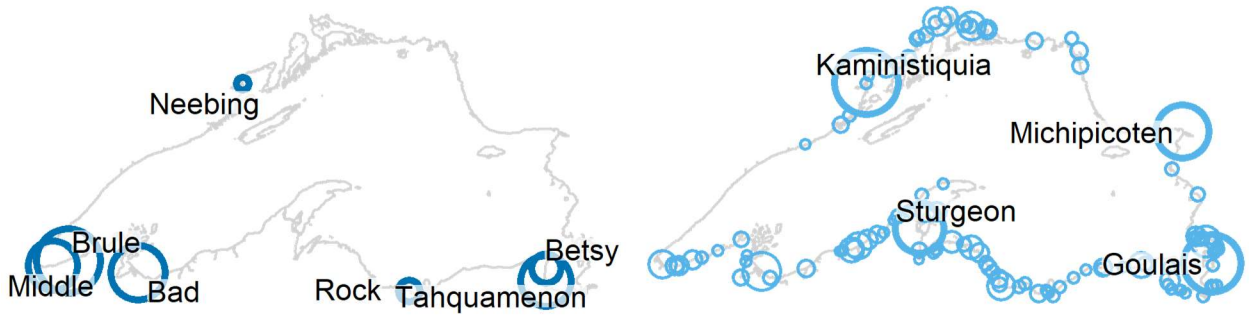

Figure 2. LEFT: Estimated index of adult sea lampreys during the spring spawning migration, 2024. Circle size corresponds to estimated number of adults from mark-recapture studies (blue) and model predictions (orange). All index streams are labelled. RIGHT: Maximum estimated number of larval sea lampreys in each stream surveyed during 1995-2012. Tributaries composing over half of the estimated maximum lake-wide larval population are identified (Kaministiquia 6,600,000; Goulais 5,000,000; Michipicoten 4,100,000; Sturgeon 3,300,000).

- Stream specific estimates for the Brule and Bad Rivers contributed most to the lake-wide index estimate in 2024 (35% and 23% respectively).
- Sea lamprey escapement upstream of barriers has been documented on the Big Carp and Misery Rivers as well as Stokely Creek in 2024.
- Over the past 3 years, Lake Superior has received a higher-than-average number of lampricide treatments. Due to this increased effort, we expect to see a decrease in lake-wide abundance beginning in 2025.

Lake Trout Marking and Relative Abundance:

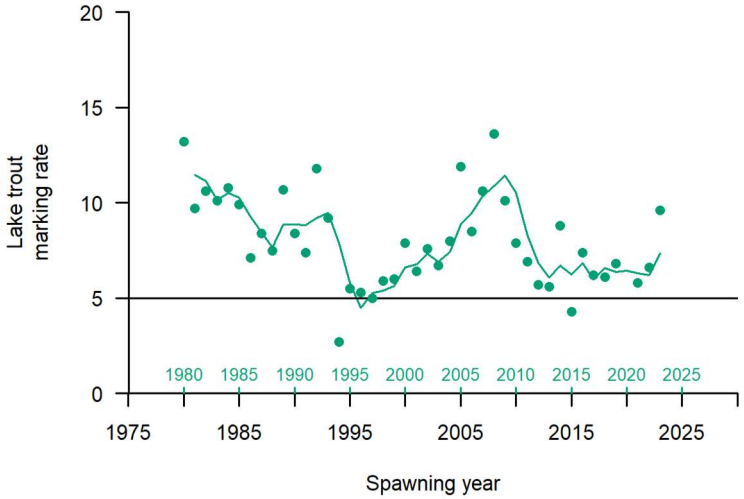

Figure 3. Number of A1-A3 marks per 100 lake trout > 532 mm from standardized assessments plotted against the sea lamprey spawning year, including the three-year moving average (line). The three-year (spawning years 2021-2023) average marking rate of 7.3 was above the target of 5 A1-A3 marks per 100 lake trout > 532 mm (horizontal line). A second x-axis shows the year the lake trout were surveyed.

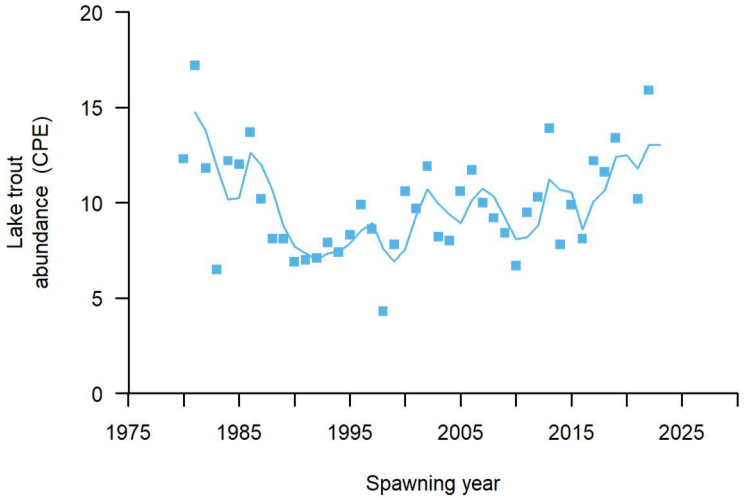

Figure 4. Lake trout relative abundance (May assessments using 4.5 inch gillnets) plotted against sea lamprey spawning year, including the three-year moving average (line). CPE = fish/km/net night of lean lake trout > 532 mm (21") total length.

- Marking rates in Superior increased in 2023, corresponding to the increase we saw in adult index values.
- Lake trout CPE data was not available at the time of report generation.

Lampricide Control - Adults vs. Field Days, TFM, and Bayluscide:

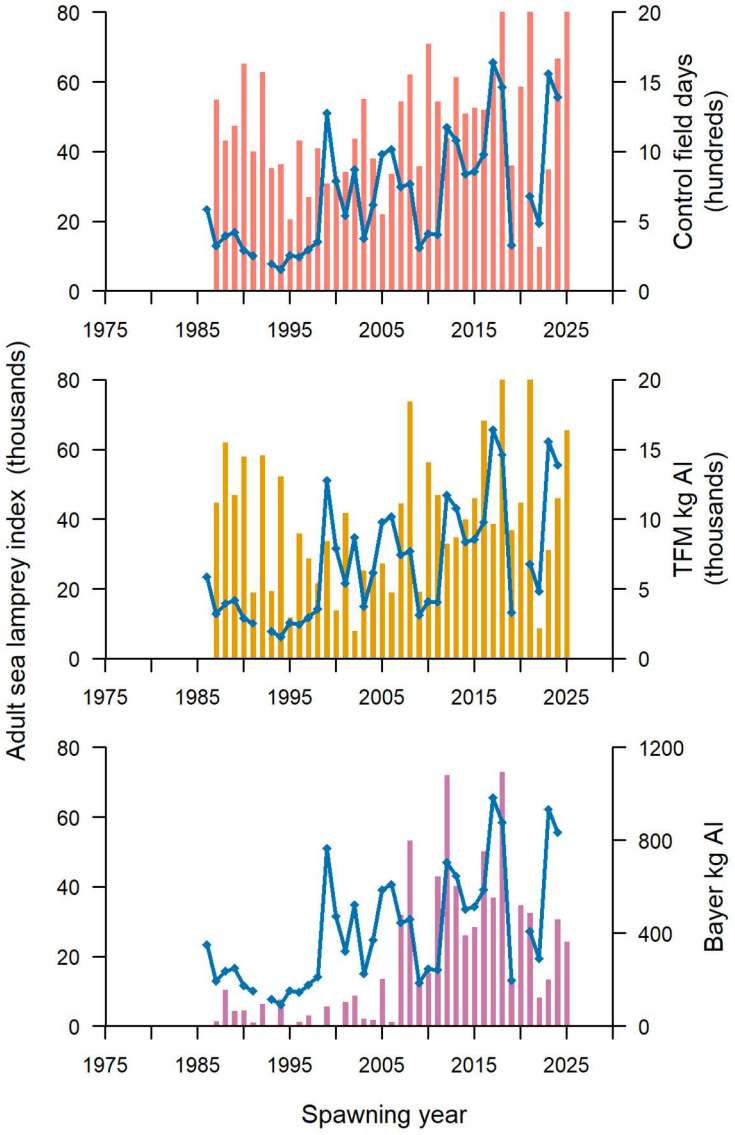

Figure 5. Index of adult sea lampreys (blue lines) and number of control field days (salmon colored bars), TFM used (kg active ingredient; orange bars), and Bayluscide used (kg active ingredient; purple bars). Field days, TFM, and Bayluscide are offset by 2 years (e.g., field days, TFM, and Bayluscide applied during 1985 is plotted on the 1987 spawning year, when the treatment effect would first be observed in adult sea lamprey populations).