

COLDWATER TASK GROUP EXECUTIVE SUMMARY REPORT MARCH 2016



Introduction

This year's Lake Erie Committee (LEC) Coldwater Task Group (CWTG) has produced an Executive Summary Report encapsulating information from the CWTG annual report. Eight charges were addressed by the CWTG during 2015-2016: (1) Lake Trout assessment in the eastern basin; (2) Lake Whitefish fishery assessment and population biology; (3) Burbot fishery assessment and population biology; (4) Participation in Sea Lamprey assessment and control in the Lake Erie watershed; (5) Maintenance of an electronic database of Lake Erie salmonid stocking information; (6) Steelhead fishery assessment and population biology, (7) Development of a Cisco impediments document and (8) Prepare a report addressing the current state of knowledge of Lake Whitefish populations in Lake Erie. The complete report is available from the Great Lakes Fishery Commission's Lake Erie Committee Coldwater Task Group website at <http://www.glfsc.org/lakecom/lec/CWTG.htm>, or upon request from an LEC or CWTG representative.

Lake Trout

A total of 847 Lake Trout were collected in 133 unbiased gill net lifts across the eastern basin of Lake Erie in 2015. High Lake Trout catches were recorded in all jurisdictions relative to the time series. Adults ages 5-7 dominated the catches with Lake Trout ages 10 and older only sporadically caught. Basin-wide Lake Trout abundance (weighted by area) was the highest value in the time series at 5.0 fish per lift, but remains below the rehabilitation target of 8.0 fish/lift. The adult (ages 5+) abundance index increased in 2015 to a time series high (3.7 fish/lift) and exceeded the target of 2.0 fish per lift for the second consecutive year. Klondike, Finger Lakes, and Lake Champlain strain Lake Trout comprise the majority of the population. Natural reproduction has not been documented in Lake Erie despite more than 30 years of restoration efforts.

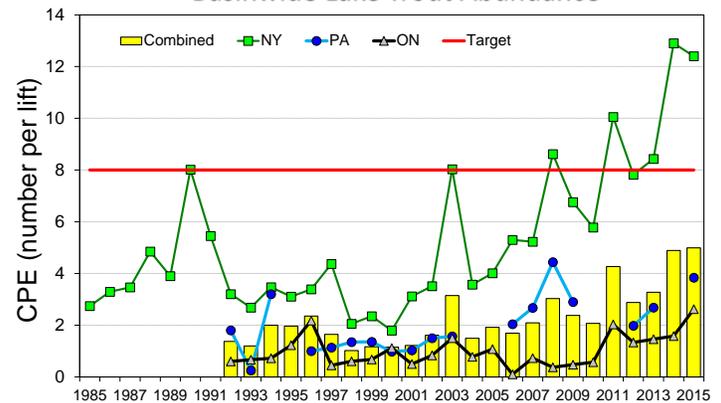
Lake Whitefish

Lake Whitefish harvest in 2015 was 126,243 pounds, distributed among Ontario (56%), Ohio (40%), Pennsylvania (3%) and Michigan (<1%). Catches in 2015 were comparable to low levels observed during the 1980s. Gill net fishery age composition ranged from 5 to 25. The 2003 year class (age 12) comprised the largest fraction (61%) of the Lake Whitefish gill net fishery. Gill net surveys caught Lake Whitefish from age 0 to 26, with age 12 most abundant. Central and east basin bottom trawl surveys caught young-of-the-year and yearling Lake Whitefish in 2015. The magnitude of influence these cohorts will have on the declining Lake Whitefish population is uncertain. Conservative harvest is recommended until Lake Whitefish spawner biomass improves.

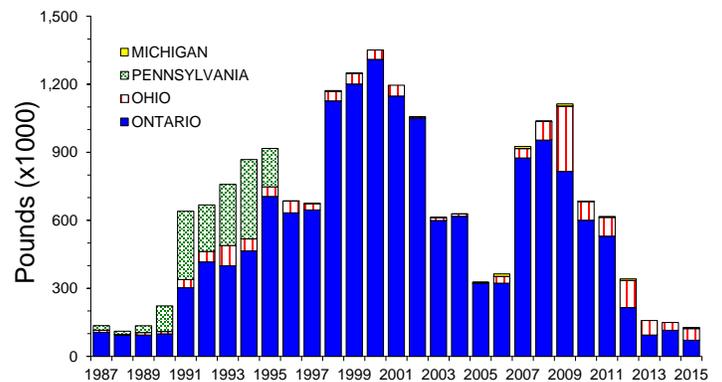
Burbot

Total commercial harvest of Burbot in Lake Erie during 2015 was 2,728 pounds (1,237 kg) of which 57% came in New York by two fishers. Burbot abundance and biomass indices from annual coldwater gillnet assessments remained at low levels in all jurisdictions in 2015, continuing a downward trend since the early-2000s. Agency catch rates during 2015 averaged 0.30 Burbot per lift across all jurisdictions, which represented about a 95% decline in mean catch rates observed during 2000-2004. Burbot ranged in age from 3 to 22 years in 2015. Ongoing low catch rates of Burbot in assessment surveys, the majority (53%) of the population being age-12+, and persistently low recruitment, signal continuing troubles for this population. Round Goby and Rainbow Smelt continue to be the dominant prey items in Burbot diets in eastern Lake Erie population.

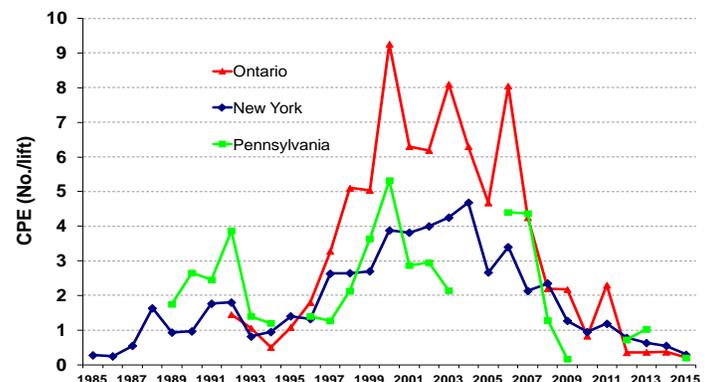
Basinwide Lake Trout Abundance



Commercial Lake Whitefish Harvest



Basinwide Burbot Abundance



Sea Lamprey

The A1-A3 wounding rate on Lake Trout over 532 mm was 11.5 wounds per 100 fish in 2015. This was a 31% decrease from the 2014 wounding rate but over two times the target rate of five wounds per 100 fish. Wounding rates have been above target for 20 of the past 21 years. Large Lake Trout over 736 mm continue to be the preferred targets for Sea Lamprey; A4 wounding rates on this size group remained very high (98 wounds per 100 fish). The estimated number of spawning adult Sea Lamprey (7,112) was lower than 2014 estimates and the fifth consecutive annual decline. However, it is still well above the target population of 3,039. Comprehensive stream evaluations continued in 2015, including extensive surveys of Lake St. Clair and the Detroit River, to determine the source of the Lake Erie population.

Lake Erie Salmonid Stocking

A total of 2,235,499 salmonids were stocked in Lake Erie in 2015. This was a 1% decrease in the number of yearling salmonids stocked compared to 2014, and was equivalent to the long-term average since 1990. Minor decreases in stocking numbers were observed for Steelhead, but Lake Trout stocking was at its highest stocking effort since directed stocking began in 1982. Although Brown Trout make up only 6% of all trout stockings, the numbers stocked increased 3% from 2014. By species, there were 304,819 yearling Lake Trout stocked in all three basins of Lake Erie; 141,013 Brown Trout stocked in New York and Pennsylvania waters, and 1,789,667 Steelhead/Rainbow Trout stocked across all five jurisdictional waters.

Steelhead

All agencies stocked yearling Steelhead in 2015. The summary of Steelhead stocking in Lake Erie by jurisdictional waters for 2015 is: Pennsylvania (1,079,019; 60%), Ohio (421,740; 24%), New York (153,923; 9%), Michigan (64,735; 4%) and Ontario (70,250; 4%). Steelhead stocking in 2015 (1.790 million) represented a 5% decrease from 2014 and 3% lower than the long-term average. Annual stocking numbers have been consistently in the 1.7-2.0 million fish range since 1993. The summer open lake Steelhead harvest was estimated at 6,460 Steelhead across all US agencies in 2015, essentially equal to 2014 estimates. Estimates for Ontario were not available in 2015. Overall, this harvest was lower than average harvest from 2008-14. Overall open lake catch rates remain near the long-term average, but effort remains minimal. Tributary angler surveys, which is where the majority (>90%) of the targeted fishery effort for Steelhead occurs, found catch rates of 0.32 fish/hour in New York during 2014-15.

Cisco

Cisco, considered extirpated in Lake Erie, have been reported in small numbers (1-7) in 18 of the past 21 years. Of the 47 observations since 1995, all but two were surrendered by commercial fishermen operating in Ontario waters including four surrendered in 2015. None were captured in 2015 in assessment gear. The question arises from these recent captures whether these specimens represent a remnant stock or are transients from Lake Huron. A genetic analysis conducted in the early 2000's using only 9 samples determined those sample fish were most likely from a remnant stock. However, new efforts are underway using genetics, morphometrics, and meristics approaches to characterize these contemporary samples. Preliminary results of this research suggests that the recent samples are unlike historically described Lake Erie cisco and may be a hybridization of deepwater forms similar to what is found in Lake Huron. This research is expected to continue during 2016 with a final determination as to the origin of these contemporary samples. A technical document "Impediments to the Rehabilitation of Cisco (*Coregonus artedii*) in Lake Erie" is expected to be completed in 2016.

