COLDWATER TASK GROUP EXECUTIVE SUMMARY REPORT MARCH 2017

Lake Erie Committee

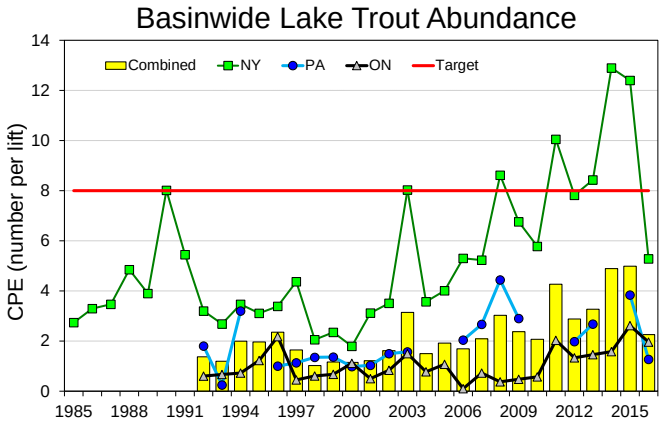
REPRESENTING THE FISHERY MANAGEMENT AGENCIES OF LAKE ERIE AND LAKE ST. CLAIR

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 2016-2017: (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.glfc.org/lakecom/lec/CWTG.htm, or upon request from an LEC or CWTG representative.

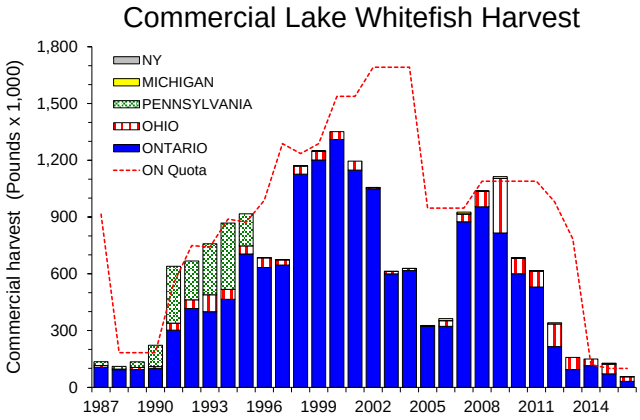
Lake Trout

A total of 385 Lake Trout were collected in 120 unbiased gill net lifts across the eastern basin of Lake Erie in 2016. Lake Trout catches declined sharply compared to the time-series highs in 2014 and 2015. Basin-wide Lake Trout abundance (weighted by area) declined 54% to 2.3 fish per lift and was remained below the rehabilitation target of 8.0 fish/lift. Lake Trout ages 4 and 6-8 were the dominate cohorts with Lake Trout ages 10 and older only sporadically caught. The adult (ages 5+) abundance index decreased in 2016 to 1.4 fish/lift and fell below the target of 2.0 fish per lift for the first time in the past 3 years. Klondike, Finger Lakes, and Lake Champlain strain Lake Trout comprise the majority of the population. The Lake Erie Lake Trout population continues to be supported by binational stocking efforts; natural reproduction has not been documented in Lake Erie despite more than 30 years of restoration efforts.



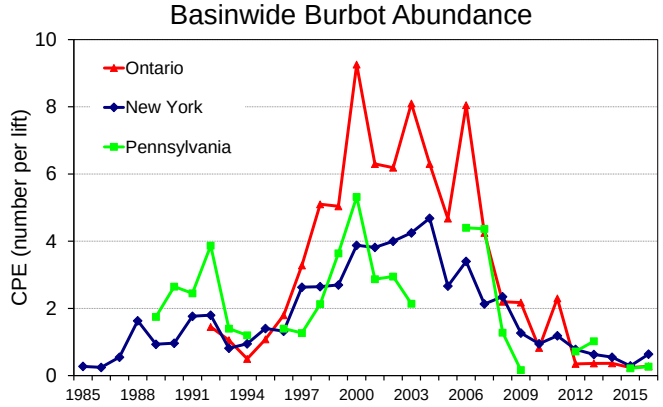
Lake Whitefish

Lake Whitefish harvest in 2016 was 55,951 pounds, distributed among Ontario (57%), Ohio (43%), Pennsylvania (<1%) and New York (<1%). Harvest in 2016 was the lowest observed since 1986. Gill net fishery age composition ranged from 2 to 18. The 2003 year class (age 13) comprised the largest fraction (58%) of the Lake Whitefish gill net fishery. Gill net surveys caught Lake Whitefish from age 1 to 27, with age 13 most abundant. Central and east basin bottom trawl surveys indicated the presence of some reproduction in both 2014 and 2015, but the magnitude of the cohorts and their influence on the declining Lake Whitefish population is uncertain. Conservative harvest is recommended until Lake Whitefish spawner biomass improves.



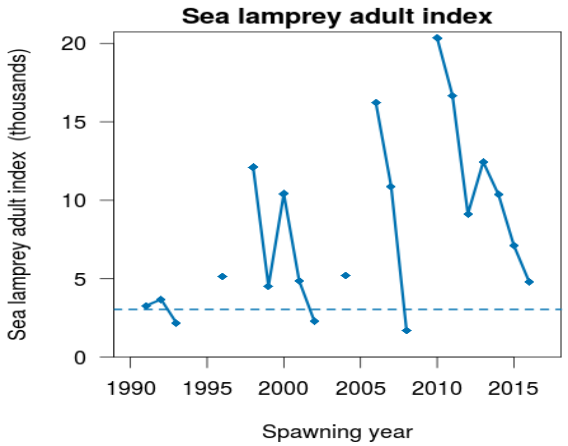
Burbot

Total commercial harvest of Burbot in Lake Erie during 2016 was 1,349 pounds (612 kg) of which 46% came from Ontario waters. Burbot abundance and biomass indices from annual coldwater gillnet assessments remained at low levels in all jurisdictions in 2016, continuing a downward trend since the early-2000s. Agency catch rates during 2016 averaged 0.39 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 24 years in 2016. Ongoing low catch rates of Burbot in assessment surveys, the majority (77%) of the population being age-10+, 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.



Sea Lamprey

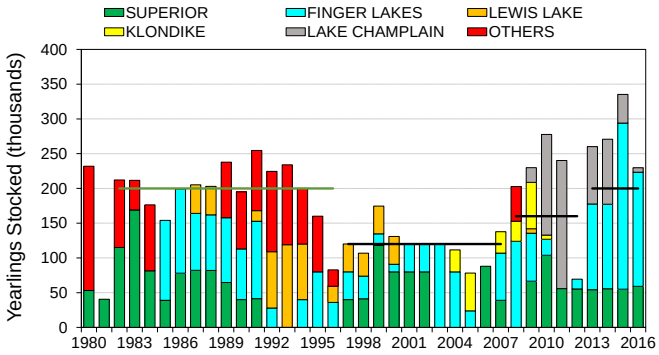
The A1-A3 wounding rate on Lake Trout over 532 mm was 14.8 wounds per 100 fish in 2016. This was higher than the 10-year wounding rate (12.9 wounds/100 fish) and nearly 3 times the target rate of 5.0 wounds per 100 fish. Wounding rates have been above target for 20 of the past 21 years. Large Lake Trout over 635 mm continue to be the preferred targets for Sea Lamprey in Lake Erie. The estimated number of adult Sea Lamprey (4,788) was lower than 2015 estimates and the third consecutive annual decline. However, it is still above the target population of 3,039. Comprehensive stream evaluations continued in 2016, including extensive surveys of Lake St. Clair and the Detroit River, to determine sources contributing to the Lake Erie population.



Lake Erie Salmonid Stocking

A total of 2,309,852 salmonids were stocked in Lake Erie in 2016. This was a 3% increase in the number of yearling salmonids stocked compared to 2015, and was 4% above the long-term average since 1990. Increases in stocking numbers were observed for Steelhead while Lake Trout stocking decreased but remained above targets for the fourth consecutive year. Brown Trout make up only 5% of all trout stockings, and the numbers stocked decreased 14% from 2015. By species, there were 219,616 yearling Lake Trout stocked in all three basins of Lake Erie, 121,359 Brown Trout stocked in New York and Pennsylvania waters, and 1,968,877 Steelhead/Rainbow Trout stocked across all five jurisdictional waters.

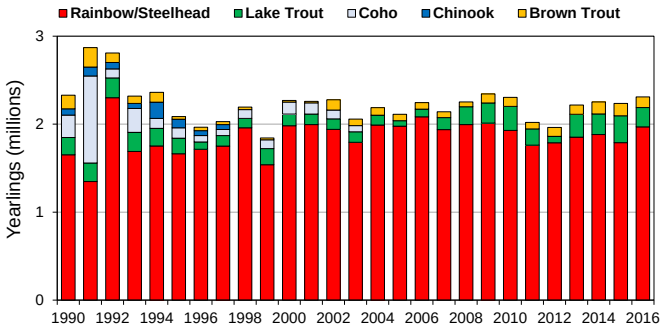
Lake Trout Stocking 1980-2016



Steelhead

All agencies stocked yearling Steelhead in 2016. The summary of Steelhead stocking in Lake Erie by jurisdictional waters for 2016 is: Pennsylvania (1,074,849; 55%), Ohio (416,593; 21%), New York (407,111; 21%), Michigan (66,000; 3%) and Ontario (4,324; <1%). Total Steelhead stocking in 2016 (1.969 million) represented a 10% increase from 2015 and 7% above 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 4,835 Steelhead across all US agencies in 2016, about a 25% decrease compared to 2015 estimates and lower than average harvest from 2008-15. Estimates of harvest were not available for Ontario in 2016. Overall open lake catch rates remain near the long-term average, but reported effort remains minimal. Tributary angler surveys, representing the majority (>90%) of the targeted fishery effort for Steelhead, found average catch rates of 0.35 fish/hour between 2009 and 2015.

Lake Erie Trout & Salmon Stocking 1990-2016



Cisco

Cisco, considered extirpated in Lake Erie, have been reported in small numbers (1-7) in 19 of the past 22 years. Of the 47 observations since 1995, all but two were surrendered by commercial fishermen operating in Ontario waters. Three more cisco were reported in 2016, but not confirmed. None were captured in 2016 in assessment gear. The question that arises from these recent captures is whether these specimens represent a remnant stock or transients from Lake Huron. A study of the morphometrics and meristics of these contemporary samples was recently completed by Eshenroder et al. (2016) which concluded that 27 of the 31 samples examined were characterized as hybrids of deepwater forms typically found in Lake Huron, supporting the theory of downward migration via the St. Clair – Detroit River system. Further research on the genetic composition of these fish is underway and is expected to be completed in 2017, however preliminary results of these analyses also indicate that a remnant Lake Erie population of Cisco no longer exists. A technical document “Impediments to the Rehabilitation of Cisco (*Coregonus artedi*) in Lake Erie” is expected to be completed in 2017 and will help determine the future of restoration activities in Lake Erie.