June 1, 2016

Lake Ontario Stakeholders:

Maintaining the Lake Ontario trophy Chinook salmon fishery depends on having sufficient numbers of alewife to feed them and maintain good Chinook growth. A record-high year class of alewife was produced in 2012 (the 2012 "year class"), however, reduced survival of the 2012 year class did not increase the adult population as managers expected in 2014 when these fish reached age 2. The two severe winters/cool summers of 2013/2014 and 2014/2015 resulted in very poor 2013 and 2014 alewife year classes, and the 2012 alewife year class likely makes up the majority of the current adult alewife population in Lake Ontario. The Lake Ontario Committee ("LOC": Steve LaPan representing the NYS Department of Environmental Conservation [NYSDEC] and Andy Todd representing the Ontario Ministry of Natural Resources and Forestry [OMNRF]) is concerned that without young alewife to replace the adults that are eaten, there may not be sufficient alewife numbers to support trophy Chinook salmon in a few years.

The preliminary results of the spring 2016 bottom trawl survey for alewife conducted by the NYSDEC, the U.S. Geological Survey appear below. Since this is the first year that OMNRF staff conducted alewife trawling, there are no comparable data to compare it to. The NYSDEC/USGS survey provides an index of relative abundance (i.e. how this year's catch compares to other years; it is not an estimate of actual numbers of alewife in the lake) of both the adult alewife population (fish age 2 and older) and 1 year old or "yearling" alewife (i.e. those fish that were spawned in 2015, or the 2015 "year class"). In Figure 1, please note that adult alewife abundance index declined markedly from 2015 to 2016. Also, the estimate of the relative size of the 2015 alewife year class (i.e. the bar for 2016 in Figure 2) measured at age 1 is well below the 1994-2015 average. Since these fish will contribute to the adult population next year when they are age 2, the LOC does not expect a marked improvement in the adult population in 2017. Our science staff will continue their analyses of these data, and will develop projections of relative alewife abundance in 2017 and beyond.

The LOC's current concerns are not related to adult alewife abundance in 2016; we will not be surprised if fishing is excellent in 2016, and Chinook size is good as well. Our concerns surround the adult alewife spawning population in 2017 and beyond. Since a large portion of the adult alewife population should be composed of fish ages 3 - 5, the LOC expects several years in the immediate future when the size of the alewife population will be greatly reduced. The LOC has asked the Lake Ontario Technical Committee to work together and provide the LOC with an assessment of the relative risks associated with a range of management options this summer.

Best regards,

Steve LaPan, Great Lakes Section Head, NYSDEC

Andy Todd, Manager, Lake Ontario Management Unit, OMNRF

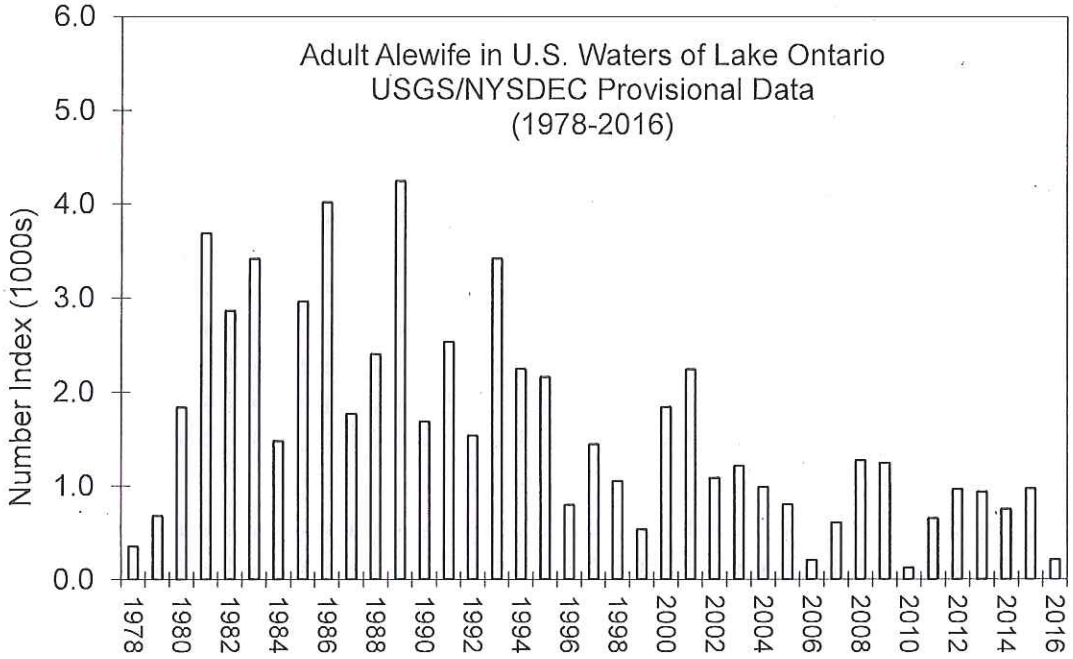

Figure 1. Relative adult alewife (age-2 and older) abundance index (average number caught per 10-minute trawl tow) in the U.S. waters of Lake Ontario during late April – early May, 1978-2016.

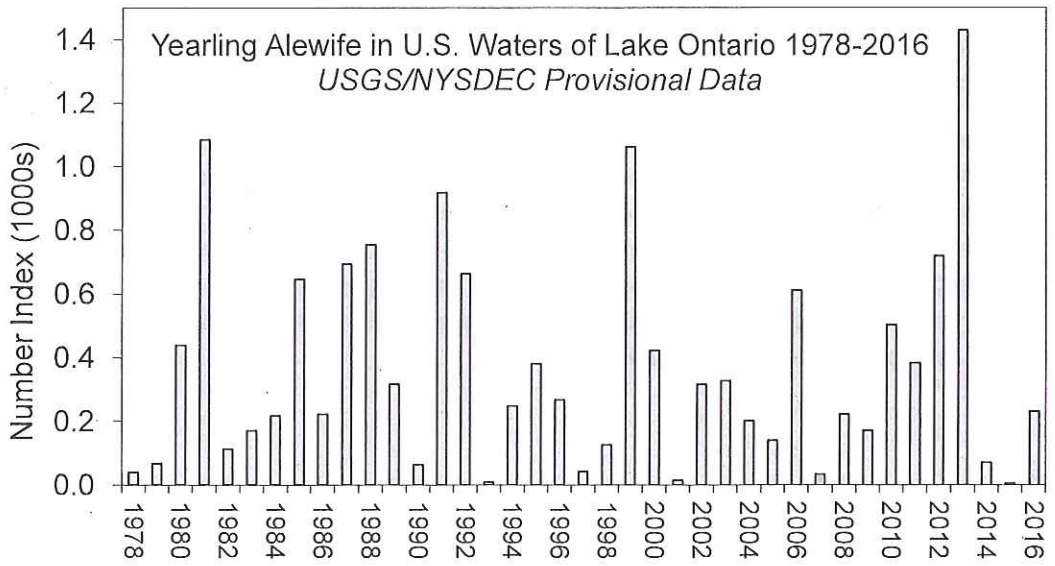

Figure 2. Abundance index (average catch per 10-minute trawl tow) for yearling (age-1) Alewife in the U.S. waters of Lake Ontario during late April – early May, 1978-2016.