

Morphometry, Growth, and Condition of Hatchery-Reared Cisco (*Coregonus artedii*) and Bloater (*Coregonus hoyi*)

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Abstract

The re-introduction of native species that have been extirpated or in low abundance in the Great Lakes has been a binational initiative between the United States and Canadian governments. Recently, new management programs have been underway that use current hatchery facilities for the restoration of native forage fishes in Lake Ontario. These species include Bloater (*Coregonus hoyi*), which has been extirpated from Lake Ontario for approximately four decades, and Cisco (*C. artedii*), which exists at a fraction of its former abundance. We assessed morphometrics, length-weight relationships, and condition factors during early life development for eight cohorts of Cisco and Bloater reared during 2012-2019. Weekly samples for Cisco and Bloater were measured from hatch until release (29-45 weeks, 133-1,002 samples annually). Head width, gape, mandible length, and mouth height metrics were all larger for Cisco than Bloater at any given size but increased at similar rates for both species. Average condition factors for Cisco and Bloater were 0.54317 and 0.55892, respectively. This information may also improve field identification of these species, helping managers evaluate the relative success of different release strategies for rehabilitation of populations of these native species.

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