

### General

In the Great Lakes basin, a number of tools are available to manage Cisco stocks including restoration when populations are depleted. Active tools that have been used include harvest regulations, habitat protection and enhancement, and population enhancement and re-introduction via stocking. Cisco management in each lake is the purview of individual jurisdictions. Regulation of commercial and recreational fisheries in the Great Lakes is under the authority of eight individual U. S. states, the Canadian province of Ontario (Fig.1), and tribal governments. In the United States Great Lakes, three intertribal organizations regulate treaty-based harvest on ceded lands and water beyond the reservations: the Great Lakes Indian Fish and Wildlife Commission, the Chippewa Ottawa Resource Authority and the 1854 Treaty Authority (CORA 2000, Kappen et al 2012). Four treaties reserve tribal fishing rights including subsistence fishery in Michigan, Wisconsin and Minnesota. In the Canadian Great Lakes, the Aboriginal Communal Fishing Licences Regulations provides communal fishing licenses as a management tool for Aboriginal fisheries, which are found on all lakes except Lake Erie. This fact sheet summarizes cisco management for each lake excluding harvest regulations for tribal fisheries which are not aligned with one lake (Fig. 2).



Figure 1. Great Lakes bordering states (GLIN.net)

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes



Figure 2 .Treaty-ceded waters in the Great Lakes with tribal fishing rights reaffirmed based on 1836, 1842, and 1854 treaties between Native American tribes and the U.S. Federal Government (from Brenden et al. 2013)

## Lake Michigan

### Historical

Management of Cisco before populations and fishery collapsed in 1960 consisted of population enhancement (propagation) efforts in lieu of fishing regulations. Between 1870 and 1960 the U.S. agencies stocked about 26 million Cisco fry (and eggs) into Lake Michigan: one million into Michigan waters and 25 million into Wisconsin waters (Todd 1986). Rearing was experimental and information on parental stock or stocking locations is lacking. Stocking was mostly of newly-hatched sac-fry and thus it is expected that survival was negligible, if any.

### Recent

The species is still present in Lake Michigan and showing recovery signs in Grand Traverse Bay (Broadway et al 2017)(See Fact sheet Status and Trends). Recent management efforts include experimental stocking, reef restoration and fishing regulations.

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

### Little Traverse Bay Stocking

Experimental stocking efforts were initiated in 2014 by the Little Traverse Bay Bands of Odawa Indians (LTBB). The tribe's Natural Resource Department opened their first hatchery in 2013 (Fig. 3), located north of Pellston, Michigan. The program uses parental stock from the remnant population in Grand Traverse Bay. Annually 30 pairs of spawners have been captured near Elk Rapids. The goals of the pilot Cisco rearing and stocking program are to determine if using a Lake Michigan Cisco source is possible, and if stocking using a Lake Michigan Cisco source could be useful in reestablishing a population in Little Traverse Bay. The Grand Traverse Bay population source choice was made as a conservative approach and under the assumption that it was the only existing spawning population in Lake Michigan (K. Donner, LTBB Personal Communication). Stocking of hatchery reared fingerlings began in the fall of 2014. Up to early 2016 all fish were stocked at the Harbor Springs boat launch and later also in areas near Petoskey. Stocking numbers are based on approximate calculations to establish a population detectable by standard monitoring (number/hectare on par with areas in Lake Superior). Since 2013, many Cisco have been caught in Little Traverse Bay. Data from mark and recapture studies are not yet available to evaluate stocking efforts.

<b><u>Stocking History</u></b>	<b>Fingerlings/yearlings</b>	
2014	Spring	~ 50,000 - 2.5 inches
	Fall	~ 8,000 - 5.0 inches
2015	Spring	~ 10,000 - 4.5 inches
	Fall	~ 2,000 - 7.5 inches
2016	Spring	~ 2,720 - 7.0 inches
	Summer	~ 50,447 - 2.85 inches
	Fall	~ 18,324 - 3.91 inches
2017	Spring	~ 11,237 - 6.29 inches
	Summer	~ 59,748 - 1.95 inches
	Fall	~ 24,356 - 3.07 inches



Figure 3. Little Traverse Bay Bands of Odawa Indians Hatchery

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

### Grand Traverse Bay Elk Rapids Reef Restoration

---

A limestone spawning reef restoration project was launched off Elk Rapids in Grand Traverse Bay in 2014 (Fig. 4). The project is a partnership among the LTBB, The Nature Conservancy (TNC), U.S. Fish and Wildlife Service (USFWS), and the Michigan Department of Natural Resources (MDNR). This cooperative project placed more than 600 tons of rock in the East Arm of the bay to rehabilitate a degraded reef and increase spawning habitat for native fish species. While most of the spawning habitat at the reef was in excellent condition, that area was degraded by a shipping dock built more than 130 years ago for the iron industry. Although Cisco spawning was occurring on the reef area, surveys indicated that eggs did not survive to hatch. Effects of this effort will be evaluated within five years (M. Herbert TNC, Personal Communication).



Figure 4. Elk Rapids Reef.

### Harvest Regulations

---

The state of **Michigan** includes Cisco on the state list of Threatened Species (MAC 2009) (*species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range*, Act 451 1994 PART 365). The designation of “state threatened” does not prohibit harvest and means that stocks are reduced from historical abundance and are of concern but not to the point that harvest is not possible in some areas. Although commercial harvest of Threatened Species by state-licensed fishers is not allowed in state of Michigan waters of Lake Michigan (MDNR 2018, Act 451 1994 Part 365), Cisco is retained as by catch in the Lake Whitefish fishery. The recreational fishery is allowed to target Cisco. Michigan statewide general hook and line regulations establish a daily catch possession limit for Cisco and Lake Whitefish of 12 fish in any combination and without size limits (FO-200.18). The fishery is allowed year round. For Michigan-Wisconsin Boundary Water the regulations establish a daily limit of 10 fish for Cisco and Lake Whitefish combined.

The state of **Indiana** lists Cisco among Species of Concern (*species requiring monitoring because of known/suspected limited abundance or distribution or because of a recent change in legal status or required habitat*). The state of Indiana does not allow commercial harvest of Cisco in Lake Michigan (IAC 2017, Title 312 9-8-2). There is no bag possession or size limit regulation for Cisco for the recreational fishery in Indiana waters (IAC 2017, Title 312 9-7-14).

The state of **Illinois** lists Cisco among Threatened Species (*likely to become endangered in the wild in Illinois within the foreseeable future*). As established by the Endangered Species Protection Act it is unlawful to

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

possess, take, transport, sell, offer for sale, give or otherwise dispose of any animal or the product thereof of any animal species which occurs on the Illinois List except as authorized by the DNR. The species is among aquatic life protected under 17 Ill. Adm. Code 1010 - Illinois List of Endangered and Threatened Fauna that may not be taken for any purpose. In Illinois waters, it is unlawful to harvest Cisco both in the commercial and recreational fishery.

The state of **Wisconsin** does not list Cisco among species with threatened conservation status in Lake Michigan. Although Cisco populations in Wisconsin waters of Lake Michigan were virtually extirpated, populations in Lake Superior are not at risk. Despite the state conservation status, Wisconsin does not allow commercial harvest of Cisco in Lake Michigan (WDNR 2016). Wisconsin regulations for hook and line fisheries in Lake Michigan indicate that the daily catch possession limit for Cisco and Lake Whitefish is 10 fish in any combination and without size limits (WDNR 2017). This fishery is allowed year round.

---

### Lake Ontario

#### Historical

Management of Cisco in Lake Ontario before populations and fishery collapsed consisted of propagation efforts in lieu of fishing regulations. Between 1870 and 1960 U.S. Federal, New York and Ontario agencies stocked about 2,901 million Cisco fry in the lake, mostly by U.S. agencies (Todd 1986). As in other lakes, stocking was mostly of newly-hatched sac fry thus it is expected that survival was negligible, if any.

#### Recent

The species is still present in Lake Ontario, mostly in the eastern basin. Spawning aggregations were historically abundant in many nearshore areas and embayments. Spawning and juvenile Cisco stages are now most reliably caught in the Bay of Quinte, ON. In New York waters, Cisco is currently documented in Chaumont and Irondequoit Bay (Fig. 5). Recent management efforts include stocking, reef restoration and fishing regulations.

---

### Stocking in New York Waters

The USGS Tunison Laboratory of Aquatic Science and New York State Department of Environmental Conservation launched a Cisco stocking program in 2011 (DEC 2012). The stocking program started with the collection of 70 spawners in Chaumont Bay and stocking started during 2012 in Irondequoit Bay. During 2015 stocking again occurred in Chaumont Bay and in 2016 in Sodus Bay. Post-stock stocking monitoring results to evaluate restoration success are not readily available.



# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

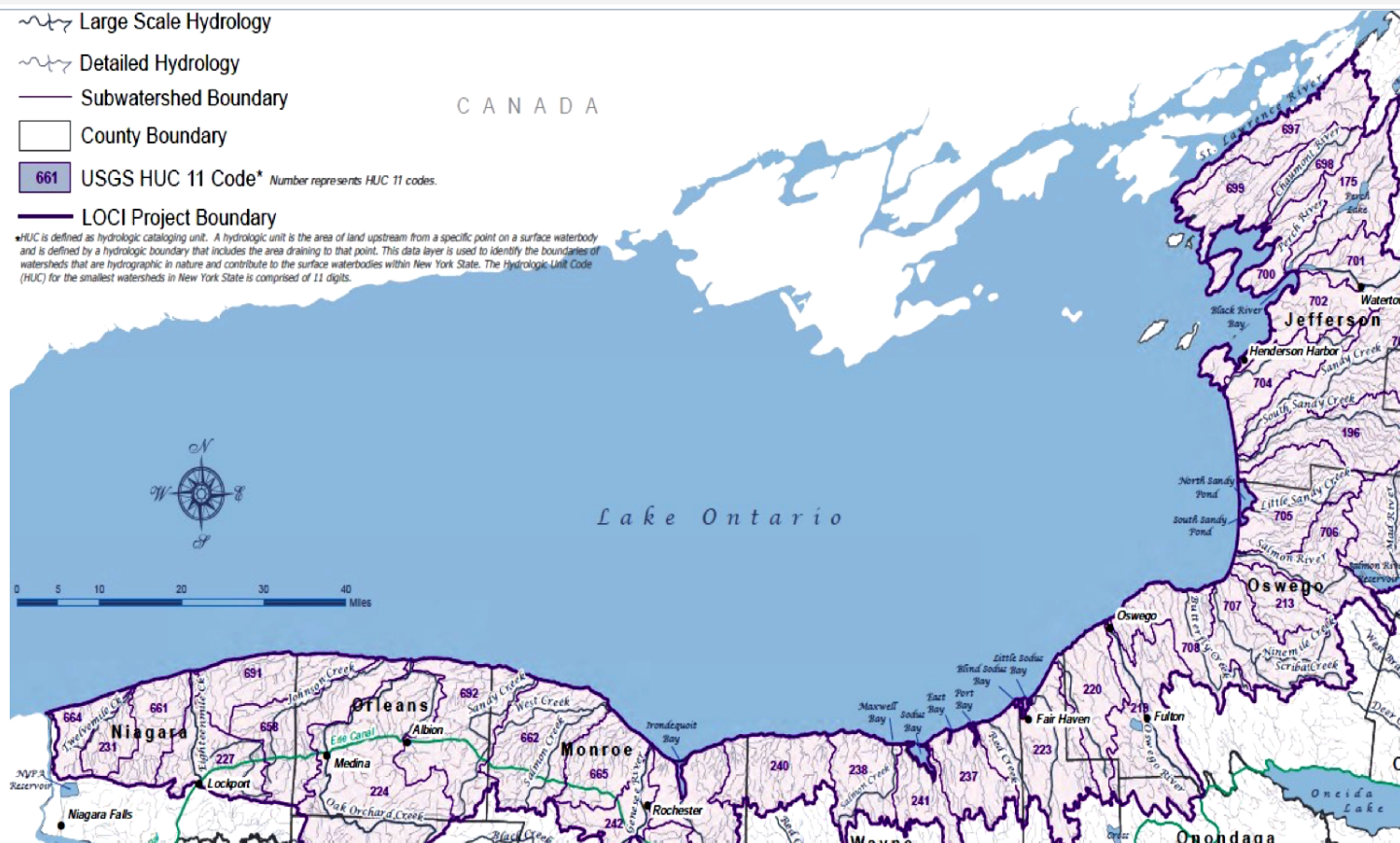


Figure 5. State of New York shoreline (source New York Sea Grant)

### Stocking History (Fingerlings/yearlings)

2012	December	~ 9,000 - 4.41 inches
2013	November	~ 9,000 - 5.28 inches
2014	September	~ 119,000 - 3.86 inches
	November	~ 26,000 - 5.24 inches
2015	September	~ 69,000 - 9.6 g (length not available)
	November	~ 20,000 - 5.39 inches
2016	October	~ 22,109 - 3.81 inches

### Hamilton Harbour Reef Restoration

Hamilton Harbour, is located in the western end of Lake Ontario and was once considered one of the best Cisco spawning habitats in the Great Lakes. It lost most of its historic shoals during the past 150 years. The Hamilton Port Authority re-graded Farr Island, below the waterline, and added rocks to create fish spawning shoals (SOG). Farr Island is a former hydro tower platform artificially constructed of rock adjacent to the City of Burlington. The project created approximately 42 acres of shoal habitat by 2010. There are no reports available on Cisco spawning evaluations.

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

### Harvest Regulations

---

Lake Ontario fisheries are managed in Canada by the Ontario Ministry of Natural Resources and Forestry (OMNRF) in partnership with the U.S. State of New York. Cisco is not listed among species with conservation status in Lake Ontario. In **Ontario** Province waters, commercial food fisheries are primarily regulated through conditions attached to the commercial fishing licence and by the Ontario Fishery Regulations (OFR). Recreational fisheries in Ontario waters are primarily regulated by the OFR (OFR 2007) under the Federal Fisheries Act. Ontario waters in Lake Ontario consist of FMZ 20 (Fisheries Management Zones). There are no restrictions for Cisco in this zone (OMNRF 2017). In **New York** waters, commercial fishing activity for species including Cisco uses gill nets, trap nets, and fyke nets and is limited to embayment and nearshore open waters of the eastern basin (NYSDEC 2018). Commercial fishers are required by law to hold specific licenses or permits to conduct fishing activities. Cisco may be recreationally fished all year in any size and number (CRR-NY 10.1).

### Lake Huron

---

#### Historical

Between 1870 and 1960, Ontario agencies stocked about 28 million Cisco fry in Lake Huron (Todd 1986). As is the case in other lakes, stocking was mostly of newly-hatched sac fry and it is expected that survival was negligible, if any.

#### Recent

The species is still present in northern Lake Huron, primarily limited to the northernmost reaches of the lake from Les Cheneaux Islands through the North Channel and Georgian Bay. Recent management efforts include stocking and harvest regulations.

### Thunder Bay Stocking

---

A pilot rearing study was conducted from 2006-2010 by the MDNR (Johnson et al 2012). Spawners were taken from the Upper St. Mary's River population, in the Baie de Wasai spawning area. Eggs were incubated at the Thompson State and Wolf Lake State Fish Hatcheries and fingerlings stocked in Thunder Bay, where Cisco had not been collected in recent decades. The purpose of this effort was to refine rearing techniques. Subsequent fingerlings were stocked from 2008 to 2011 at Lafarge West Dock in Thunder Bay. Stocking follow up in 2011 caught two marked adults during spawning within 100 meters of the Thunder Bay stocking area. These fish were fish from 2008 and 2009 stocking events.

#### Stocking History (Fingerlings)

2008 July ~ 6,240 - 3.8 inches

2009 July ~ 40,012 - 3.2 inches

2011 June ~ 9,495 - 2.9 inches

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

### Saginaw Bay Stocking

---

Stocking is planned for Cisco reintroduction for west central Lake Huron using outer Saginaw Bay as the reintroduction site. Sources for the experiment include Lake Huron spawners from Les Cheneaux Islands and from Potagannissing Bay (lower St. Mary's River); the initial proposed design also included evaluating western Lake Superior sources (LHTC & GLFC 2007). The Lake Huron Committee gave the green light for its implementation using the Lake Huron source (LHTC 2015). The first full year for the study was anticipated after spawn collection in 2017 and first stocking event in 2018. The Lake Huron Technical and Lake Committees are working to develop a stocking evaluation plan for the 750,000 fingerling Cisco to be stocked for a minimum of five years. Fish are reared at Jordan River National Fish hatchery and captive brood sources developed at Genoa National Fish Hatchery using the same sources. If the stocking does not result in returning adults and successful reproduction, the Lake Huron Committee will reevaluate the efficacy of stocking and if alternate gamete sources should be used.

### Harvest Regulations

---

As indicated, the state of **Michigan** lists Cisco among Threatened Species (MAC 2009). The designation of "state threatened" does not prohibit harvest and means that stocks are reduced from historical abundance and are of concern but not to the point that harvest is not possible in some areas. In Michigan waters of Lake Huron, it is unlawful to harvest, attempt to harvest, or possess any threatened or endangered species except as authorized by the DNR. In the recreational fishery, there is a daily possession limit of 12 fish in any combination with Lake Whitefish. There is no minimum size limit for Cisco in Michigan waters (FO 200.17). A change in regulation will be introduced covering all waterbodies in the state of Michigan to reduce the bag limit in support of restoration efforts (R. Claramunt, MDNR Personal Communication).

In **Canadian waters**, Ontario commercial fisheries are regulated through conditions attached to the commercial fishing licence and also by the OFR. Commercial Cisco harvest, as for all Canadian commercial fish species in Lake Huron, is regulated via an individual transferable quota (ITQ) system and an annual licence that specifies allowed harvest. Cisco is considered a rehabilitation quota species in all Quota Management Areas (QMA) (Figure 6), except in QMA 6-1 where it is regulated with a fixed Incidental quota reviewed upon request (OMNRF 2014). There are gillnet mesh size regulations established in the Condition of Licence for Georgian Bay (2.5 - 3.25 inches with 20 meshes in depth; and 4.5 - 5.5 inches with no maximum depth)(F. James MNFR, 2018 Personal Communication). There are no specific area or season restrictions on Cisco in Ontario waters. The recreational fishery is primarily regulated by Ontario Fishery Regulations (OFR) under the Federal Fisheries Act. Lake Huron Ontario waters consist of Fisheries Management Zone (FMZ) 13 and FMZ 14 (Georgian Bay and North Channel). There are no restrictions for Cisco in FMZ13, and in FMZ14 there is an all year open season with a standard bag limit of 25 fish for a sport fishing licence and 12 for conservation fishing licence and with no size limits (OFR 2017).



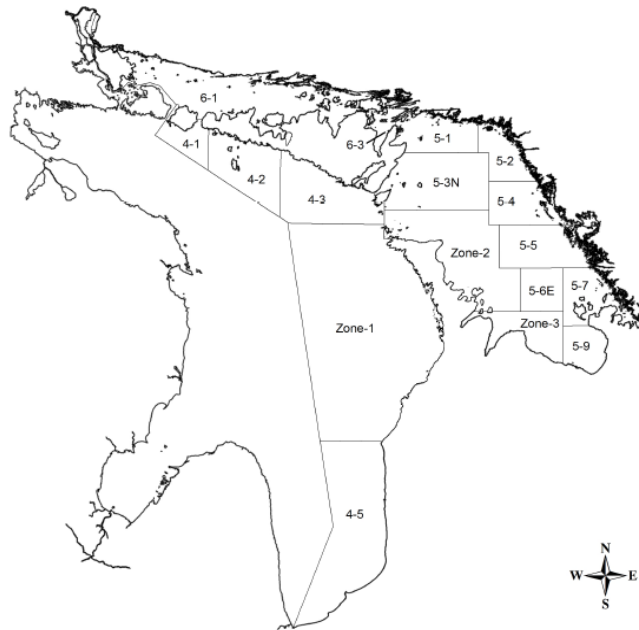


Figure 6. Canadian Quota Management Areas in Lake Huron (Ontario Ministry of Natural Resources and Forestry).

---

## Lake Superior

### Historical

Between 1870 and 1960, U.S. agencies stocked about 337 million Cisco fry in Lake Superior (Todd 1986). As is the case in other lakes, stocking was mostly of newly-hatched sac fry which are not expected to have survived.

### Recent

Cisco populations have declined and management has been addressed via fishing restrictions starting in the 1970s. Management regulations established in Lake Superior have included annual quotas, gear regulations and fishery closures varying by jurisdiction (Fig. 7).

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

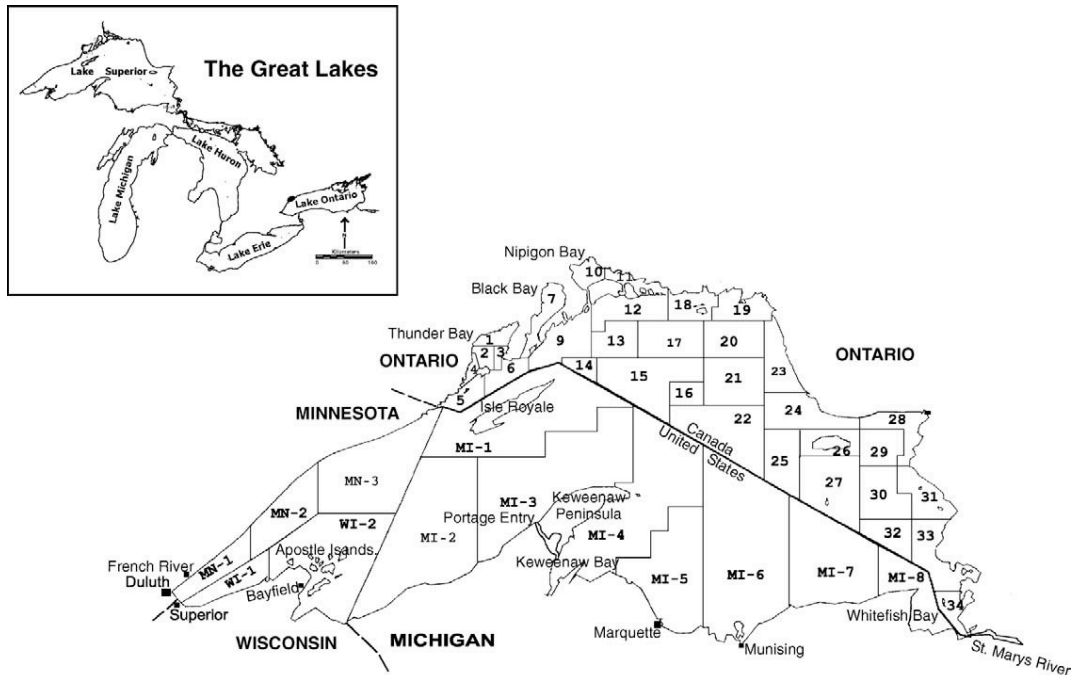


Figure 7. Cisco management units in Lake Superior (from Stockwell et al. 2009).

### Harvest Regulations

The state of **Wisconsin**, through the Natural Resource Board Order, established a total allowable annual harvest (TAC) for the Cisco commercial fishery by state licensed fishers not to exceed 7.5 % of the total of the most recent estimate of cisco biomass in Lake Superior based on hydroacoustic surveys (WNDR 2016). The Order states that the Wisconsin TAC in waters of Lake Superior 2016 -2018 may not exceed 1,497,900 round weight pounds in a calendar year. The total harvest of Cisco by state licensed commercial fishers may not exceed 1,317,900 round weight pounds (131,790 pounds per license from October 1<sup>st</sup> through December 31<sup>st</sup>, using mesh size gill nets between 2 3/8 and 3 inch stretch). The other 180,000 round weight pounds are reserved for all users including incidental catch, recreational angling, and department assessment activities. Any additional fish would come from individual allotments. The recreational hook and line fishery establishes a 10 fish combined daily limit of Cisco and Lake Whitefish (includes hybrids) without size limitations (WDNR 2017). The fishery is open year round.

The state of **Minnesota** establishes a Cisco annual quota for Lake Superior commercial harvest (TAC) based on 10% of the three year average hydroacoustic estimates of spawning Cisco. Commercial fishing licenses are limited to 25. For the recreational fishery, Cisco (tullibee) is classified as rough fish and under-utilized fish and there is no bag limit or closed season (MNDNR 2018).

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

The state of **Michigan** establishes that, in Lake Superior, Cisco can be retained in the commercial fishery as by-catch in the deep water gill net fishery for chubs (MAC 2016). Each chub license has a Cisco catch limit assigned. Nevertheless, the licenses that have chub gill net as an authorized gear have basically not been fished since the 1980s (T. Goniea MDNR, Personal Communication). Cisco may not be kept from any other gear set within Michigan jurisdiction; specifically they may not be retained from trap net harvest by state-licensed commercial fishery. The daily possession limit in the recreational hook and line fishery is 12 fish for Lake Whitefish and Cisco combined. The fishery is open all year.

In **Ontario** waters, OMNRF introduced Cisco catch quotas in 1984. Quotas for Thunder Bay and Black Bay are established annually. There are commercial seasonal fishing closures. Recreational fisheries are regulated under the Federal Fisheries Act primarily by OFR. Ontario waters in Lake Superior consist of FMZ 9 (OFR 2017). There are no restrictions for Cisco in FMZ 9. Although Cisco is listed as a baitfish in Ontario waters there is no dip net open season for Cisco in FMZ 9.

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

### Reference Sources

- Act 451 1994. The Natural Resources and Environmental Protection Act, Act 451 of 1994 –  
<http://legislature.mi.gov/doc.aspx?mcl-Act-451-of-1994>  
<http://www.legislature.mi.gov/documents/mcl/pdf/mcl-451-1994-iii-1-endangered-species-365.pdf>
- Brenden T., M., Ebener, R., Brown, and Newcomb, T. 2013. Great Lakes commercial fisheries: Historical overview and prognoses for the future. In Great Lakes fisheries policy and management: a binational perspective, Edition: 2nd, Publisher: Michigan State University Press, East Lansing, MI, Editors: W.W. Taylor, A.J. Lynch, N.J. Leonard, pp.339-397.
- Broadway, K., Donner, K., Claramunt, R., and Smith J. 2017. State of Lake Michigan 2011-2015 Report. Inshore and Benthivore Section –Cisco. 6pp.
- CORA 2000. Fishing Regulations for the 1836 Treaty Ceded Waters of Lakes Superior, Huron, and Michigan. <http://www.baymills.org/resources/2014%20CORA%20REGS.pdf>
- CRR-NY 10.1. New York Codes, Rules and Regulations. Department of Environmental Conservation. Chapter 1. Fish and Wildlife. <https://govt.westlaw.com/nycrr/>
- DEC 2012. Department of Environmental Conservation, New York State. <http://www.dec.ny.gov/press/87875.html>
- FO-200.18. Fisheries Orders Statewide Trout, Salmon, Whitefish, Lake Herring, and Smelt Regulations. [https://www.michigan.gov/documents/dnr/FO\\_200.10\\_317498\\_7.pdf](https://www.michigan.gov/documents/dnr/FO_200.10_317498_7.pdf)
- Johnson, J., D., Fielder, M., Hughes, and Espinoza R. 2012. Pilot cisco egg take and culture study. Michigan Dept. of Natural Resources Fisheries Brief Report.
- IAC 2017. Title 312, Natural Resources Commission, Indiana Administrative Code, Article 9. Fish and Wildlife. <http://www.in.gov/legislative/iac/title312.html>
- Kappen, A., Allison, A., and Verhaaren B. 2012. Treaty Rights and subsistence fishing in the U.S. waters of the Great lakes, Upper Mississippi River and Ohio River basins. Argonne National Laboratory, Argonne, III. 66 pp.
- LHTC, 2015. A proposal to the Lake Huron Committee to evaluate survival, habitat selection and reproductive success of two cultured cisco morphotypes reintroduced into west-central Lake Huron. Unpublished. <http://www.sustainourgreatlakes.org/projects/lake-herring-and-lake-whitefish-spawning-shoal-restoration-in-lake-ontario/>
- LHTC & GLFC, 2007. Strategy and Options for Promoting the rehabilitation of Cisco in Lake Huron [http://www.glfc.org/lakecom/lhc/LakeHuron\\_CiscoRehab.pdf](http://www.glfc.org/lakecom/lhc/LakeHuron_CiscoRehab.pdf)
- MAC 2009. Michigan Administrative Code. Department of Natural Resources Wildlife Division Endangered and Threatened Species. R.2991023. Fishes. [http://www.michigan.gov/documents/dnr/2007-007\\_NR\\_Threatened\\_Endangered\\_Species\\_nonstrike\\_9-12\\_274586\\_7.pdf](http://www.michigan.gov/documents/dnr/2007-007_NR_Threatened_Endangered_Species_nonstrike_9-12_274586_7.pdf)  
[http://www.michigan.gov/dnr/0,4570,7-153-10364\\_52259---,00.html](http://www.michigan.gov/dnr/0,4570,7-153-10364_52259---,00.html).
- MAC 2016. Michigan Administration Code FO 243. Fisheries Order 243.16 State Licensed Commercial Fishing. (<http://dmbinternet.state.mi.us/DMB/ORRDocs/AdminCode/>)  
[http://www.michigan.gov/documents/dnr/FO-243.16\\_State-Licensed\\_Commercial\\_Fishing\\_532300\\_7.pdf](http://www.michigan.gov/documents/dnr/FO-243.16_State-Licensed_Commercial_Fishing_532300_7.pdf)
- MDNR 2018. 2018 Michigan Fishing Guide. [https://www.michigan.gov/documents/dnr/2018-MI-Fishing-Guide-WEB\\_615716\\_7.pdf](https://www.michigan.gov/documents/dnr/2018-MI-Fishing-Guide-WEB_615716_7.pdf).
- MNDNR 2018. Minnesota Fishing Regulations. State of Minnesota, Natural Resources Department. 98p.
- NYSDEC 2018. Lake Ontario Annual Report. [https://www.dec.ny.gov/docs/fish\\_marine\\_pdf/lorpt17.pdf](https://www.dec.ny.gov/docs/fish_marine_pdf/lorpt17.pdf)
- OFR 2007. Ontario Fishery Regulations, Current to September 26 2018. <http://laws-lois.justice.gc.ca/PDF/SOR-2007-237.pdf>

# Integrated Assessment Cisco (*Coregonus artedii*) Restoration in Lake Michigan

## FACT SHEET: Management/Restoration Efforts in the Great Lakes

- OFR 2017. 2018 Fishing Ontario. Recreational Fishing Regulations Summary.  
<https://www.ontario.ca/document/ontario-fishing-regulations-summary>,
- OMNRF 2014. Ontario Ministry of Natural Resources and Forestry Draft Quota Adjustment Guidelines, Upper Great Lakes Management Unit.
- OMNRF 2017. Ontario Ministry of Natural Resources and Forestry. Lake Ontario Fish Communities and Fisheries: 2016 Annual Report of the Lake Ontario Management Unit. OMNR, Picton, Ontario, Canada.  
[http://www.glfc.org/loc\\_mgmt\\_unit/index.html](http://www.glfc.org/loc_mgmt_unit/index.html)
- SOGL. Sustain our Great Lakes. Lake herring and Lake Whitefish spawning shoal restoration in Lake Ontario.  
<http://www.sustainourgreatlakes.org/projects/lake-herring-and-lake-whitefish-spawning-shoal-restoration-in-lake-ontario/>
- Stockwell, J.D., Ebener, M.P., Black, J.A., Gorman, O.T., Halpern, T., Hrabik, T.R., Kinnunen, R.E., Mattes, W.P., Oyadomari, J., Schram, S.T., Schreiner, D.R., Seider, M.J., Scribner, K., Sitar, S.P., and Yule, D.L. 2009. A synthesis of Cisco recovery in Lake Superior: implications for native fish rehabilitation in the Laurentian Great Lakes. N. Am. J. Fish. Manage. 29, 626–652.
- Todd, T. 1986. Artificial propagation of coregonines in the management of the Laurentian Great Lakes. Arch. Hydrobiol. Beih. Ergebn. Limnol. 22:31-50.
- WDNR 2016. Statement of Scope  
[https://docs.legis.wisconsin.gov/code/register/2016/726A1/register/ss/ss\\_053\\_16/ss\\_053\\_16/\\_2?up=1](https://docs.legis.wisconsin.gov/code/register/2016/726A1/register/ss/ss_053_16/ss_053_16/_2?up=1)
- WDNR 2017. Guide to Wisconsin Hook and Line Fishing Regulations 2017-2018. 79 p.  
<http://dnr.wi.gov/topic/fishing/regulations/hookline.html>.