

DRAFT Government Response Statement
to the
Recovery Strategy for the Shortnose Cisco in Ontario

1 **Shortnose Cisco**

2 **Ontario Government Response Statement**

3 **Protecting and Recovering Species at Risk in Ontario**

4 Species at risk recovery is a key part of protecting Ontario's biodiversity. The
5 *Endangered Species Act, 2007* (ESA) is the Government of Ontario's legislative
6 commitment to protecting and recovering species at risk and their habitats.

7 Under the ESA, the Government of Ontario must ensure that a recovery strategy is
8 prepared for each species that is listed as endangered or threatened. A recovery
9 strategy provides science-based advice to government on what is required to achieve
10 recovery of a species.

11 Within nine months after a recovery strategy is prepared, the ESA requires the
12 government to publish a statement summarizing the government's intended actions and
13 priorities in response to the recovery strategy. The response statement is the
14 government's policy response to the scientific advice provided in the recovery strategy.
15 In addition to the strategy, the government response statement considered (where
16 available) input from Indigenous communities and organizations, stakeholders, other
17 jurisdictions, and members of the public. It reflects the best available local and scientific
18 knowledge, including Traditional Ecological Knowledge where it has been shared by
19 communities and Knowledge Holders, as appropriate and may be adapted if new
20 information becomes available. In implementing the actions in the response statement,
21 the ESA allows the government to determine what is feasible, taking into account social,
22 cultural and economic factors.

23 The [Recovery Strategy for the Shortnose Cisco \(*Coregonus reighardi*\) in Ontario](#) was
24 completed on December 7, 2018.

25 Shortnose Cisco is a deepwater fish, typically characterized by a cylindrical body, short
26 head and snout, small eye and short paired fins. It is presumed extirpated but was
27 historically known from Lake Huron and Lake Ontario.

DRAFT Government Response Statement
to the
Recovery Strategy for the Shortnose Cisco in Ontario

28 **Protecting and Recovering Shortnose Cisco**

29 Shortnose Cisco is listed as an endangered species under the ESA, which protects both
30 the fish and its habitat. The ESA prohibits harm or harassment of the species and
31 damage or destruction of its habitat without authorization. Such authorization would
32 require that conditions established by the Ontario government be met.

33 Globally, Shortnose Cisco was endemic to (occurred only in) three of the Great Lakes:
34 Lake Michigan, Lake Huron and Lake Ontario. The 2005 federal Committee on the
35 Status of Endangered Wildlife in Canada (COSEWIC) Assessment and Update Status
36 report states that although it has probably disappeared throughout its global range,
37 searches for this species have not been extensive enough to declare it extinct. The
38 species was last reported from Lake Ontario in 1964, Lake Michigan in 1982 and Lake
39 Huron in 1985. Since the publication of the COSEWIC report, more recent sampling has
40 been conducted in Lakes Huron and Ontario that could capture Shortnose Cisco;
41 however, despite the use of appropriate sampling methods and effort, no observations
42 were reported. The species is believed to be extirpated in Ontario (and extinct globally)
43 although it does not yet meet the formal criteria for that designation (i.e., elapsed time
44 since last credible record > 50 years).

45 Shortnose Cisco is one of ten cisco species found in Canada. The status of Shortnose
46 Cisco is complicated by the possibility of hybridization among cisco species in the Great
47 Lakes and the unresolved taxonomy of the cisco complex. As a result, identification of
48 individual species can be difficult due to the similarity in traits that would typically be
49 used to distinguish species. This is further intensified by the fact that while genetic
50 differences have been identified among and between cisco, these results have not been
51 consistent with the historical interpretation of species (i.e., based on morphological
52 differences).

53 Little is known about the biology or habitat requirements of Shortnose Cisco. In Ontario,
54 the species was historically known to occupy clear, cold, deepwater habitats in Lakes
55 Huron and Ontario with depths ranging from 22 to 110 m. Although distribution data for
56 the species are lacking, deepwater habitats within these two lakes are abundant. The
57 Shortnose Cisco's diet consisted predominantly of freshwater crustaceans, such as
58 Opossum Shrimp (*Mysis diluviana*) and benthic amphipods (*Diporeia* spp.) and
59 spawning was believed to occur primarily during April through June.

60 The species' collapse and apparent extirpation is suspected to be the result of
61 commercial overfishing and possibly competition with, or predation from, introduced
62 species. If populations still exist, they may be further threatened by hybridization with

DRAFT Government Response Statement
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Recovery Strategy for the Shortnose Cisco in Ontario

63 other ciscoes, including the reintroduced Bloater (*Coregonus hoyi*). Current stocking
64 efforts to re-establish self-sustaining Lake Trout (*Salvelinus namaycush*) populations in
65 Lakes Huron and Ontario could also threaten the Shortnose Cisco by increasing
66 predation by these species on populations of Shortnose Cisco should they exist.
67 Competition with, or predation by, invasive species, such as Sea Lamprey (*Petromyzon*
68 *marinus*), Alewife (*Alosa pseudoharengus*) and Rainbow Smelt (*Osmerus mordax*) may
69 also have contributed to population declines or prevented its re-establishment. Another
70 impact related to invasive species may include the effect of dreissenid mussels (e.g.,
71 Zebra Mussels (*Dreissena polymorpha*)) on the abundance of Shortnose Cisco food
72 sources such as benthic amphipods (*Diporeia* spp.).

73 Formerly, the Shortnose Cisco was a valuable component of the deepwater cisco
74 fishery (commonly known as the “chub” fishery). However, commercial fishing of these
75 species no longer occurs within the Canadian waters of Lakes Huron or Ontario due to
76 the collapse of deepwater cisco populations in the Great Lakes. If a commercial chub
77 fishery becomes active in the future, overexploitation could become a threat unless
78 appropriately mitigated or managed.

79 To date, there have been no recovery efforts specifically targeting Shortnose Cisco. In
80 Ontario, it is recommended that recovery actions focus on determining whether the
81 species is still present and undertaking research and general conservation efforts that
82 have the potential to benefit deepwater cisco species as a whole. If Shortnose Cisco is
83 found to be extant, consideration should be given towards potential threats and threat
84 mitigation techniques. Once further information is available about the species and other
85 co-occurring ciscoes in Ontario, this information may be used to review and adapt
86 protection and recovery activities and the goal may be re-evaluated.

87 **Government’s Recovery Goal**

88 The government’s goal for the recovery of Shortnose Cisco is to increase knowledge of
89 the species, the cisco complexes and their habitat and if populations are found to exist,
90 mitigate threats to the Shortnose Cisco.

91 **Actions**

92 Protecting and recovering species at risk is a shared responsibility. No single agency or
93 organization has the knowledge, authority or financial resources to protect and recover
94 all of Ontario’s species at risk. Successful recovery requires inter-governmental
95 cooperation and the involvement of many individuals, organizations and communities. In
96 developing the government response statement, the government considered what

DRAFT Government Response Statement
to the
Recovery Strategy for the Shortnose Cisco in Ontario

97 actions are feasible for the government to lead directly and what actions are feasible for
98 the government to support its conservation partners to undertake.

99 **Government-led Actions**

100 To help protect and recover Shortnose Cisco, the government will directly undertake the
101 following actions:

- 102 • Continue to implement [Ontario's Great Lakes Strategy](#) (2012) including the
103 [Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health](#)
104 [\(COA\)](#) to help restore, protect and conserve the Ontario Great Lakes.
- 105 • Collaborate with federal partners, such as Fisheries and Oceans Canada, and
106 partners in other jurisdictions to implement fisheries monitoring programs and
107 research, with consideration of Shortnose Cisco and other co-occurring
108 deepwater cisco species.
- 109 • Educate other agencies and authorities involved in planning and environmental
110 assessment processes on the protection requirements under the ESA.
- 111 • Encourage the submission of Shortnose Cisco data to the Ontario's central
112 repository through the citizen science project that they receive data from (i.e.,
113 [iNaturalist.ca](#)) and directly through the [Natural Heritage Information Centre](#).
- 114 • Undertake communications and outreach to increase public awareness of
115 species at risk in Ontario.
- 116 • Continue to protect Shortnose Cisco and its habitat through the ESA.
- 117 • Support conservation, agency, municipal and industry partners, and Indigenous
118 communities and organizations to undertake activities to protect and recover
119 Shortnose Cisco. Support will be provided where appropriate through funding,
120 agreements, permits (including conditions) and/or advisory services.
- 121 • Encourage collaboration, and establish and communicate annual priority actions
122 for government support in order to reduce duplication of efforts.

123 **Government-supported Actions**

124 The government endorses the following actions as being necessary for the protection
125 and recovery of Shortnose Cisco. Actions identified as "high" may be given priority
126 consideration for funding under the Species at Risk Stewardship Program. Where

DRAFT Government Response Statement
to the
Recovery Strategy for the Shortnose Cisco in Ontario

127 reasonable, the government will also consider the priority assigned to these actions
128 when reviewing and issuing authorizations under the ESA. Other organizations are
129 encouraged to consider these priorities when developing projects or mitigation plans
130 related to species at risk.

Focus Area: Research and Monitoring

Objective: Investigate the distribution, abundance and taxonomy of Shortnose
Cisco in Ontario.

134 Difficulties in distinguishing individual species within the Great Lakes deepwater cisco
135 complex and understanding the processes that maintain their distinctiveness have
136 hindered efforts to effectively manage and protect these species. Filling knowledge gaps
137 on the taxonomy of the cisco complex species may help inform recovery planning and
138 enable management at an appropriate level and scale. Shortnose Cisco has not been
139 reported in Ontario waters since 1985. As such, recovery efforts should be directed at
140 surveying for the presence/absence of the species in Ontario through targeted surveys
141 or in collaboration with ongoing fisheries monitoring programs.

Actions:

- 142
143 1. **(High)** Further investigate the taxonomic uncertainty
144 surrounding the cisco complex species, including Shortnose
145 Cisco. Actions may include:
 - 146 ○ conducting morphological, biological, ecological, genetic
147 and habitat assessments of cisco complexes to
148 determine taxonomic distinctiveness of individual
149 species, including Shortnose Cisco;
 - 150 ○ examining historic cisco species samples from Lake
151 Superior to determine whether Shortnose Cisco occurred
152 in additional Great Lakes; and,
 - 153 ○ analyzing archived specimens to investigate the role of
154 Shortnose Cisco in the food chain (trophic niche)
155 compared to other cisco species.
- 156
157 2. Determine if Shortnose Cisco continues to exist in Ontario.
158 Actions may include:
 - 159 ○ conducting targeted surveys at locations with historic
160 occurrences or other locations with habitat similar to
161 historical collection sites;

DRAFT Government Response Statement
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Recovery Strategy for the Shortnose Cisco in Ontario

194 recovery activities. Where appropriate, the implementation of actions for multiple
195 species will be coordinated across government response statements.

196 **Reviewing Progress**

197 The ESA requires the Ontario government to conduct a review of progress towards
198 protecting and recovering a species not later than five years from the publication of this
199 response statement. The review will help identify if adjustments are needed to achieve
200 the protection and recovery of Shortnose Cisco.

201 **Acknowledgement**

202 We would like to thank all those who participated in the development of the Recovery
203 Strategy for the Shortnose Cisco (*Coregonus reighardi*) in Ontario for their dedication to
204 protecting and recovering species at risk.

205 **For Additional Information:**

206 Visit the species at risk website at ontario.ca/speciesatrisk
207 Contact the Natural Resources Information and Support Centre
208 1-800-667-1940
209 TTY 1-866-686-6072
210 nrisc@ontario.ca