

DRAFT Government Response Statement
to the
Recovery Strategy for the Branched Bartonia in Ontario

1 **Branched Bartonia**

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 Branched Bartonia \(*Bartonia paniculata*\) in Ontario](#) was
24 completed on December 7, 2018.

25 Branched Bartonia is an annual herb that is 10 to 40 cm tall with a green or purple,
26 angled stem and tiny, white flowers. It often grows in *Sphagnum* moss.

27 **Protecting and Recovering Branched Bartonia**

28 Branched Bartonia is listed as a threatened species under the ESA, which protects both
29 the plant and its habitat. The ESA prohibits harm or harassment of the species and
30 damage or destruction of its habitat without authorization. Such authorization would
31 require that conditions established by the Ontario government be met.

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32 Branched Bartonia is considered to be globally secure but has varying degrees of
33 security throughout its range. It appears to be common in parts of New England, New
34 Jersey, and the southeast states from Texas west to South Carolina and north
35 Kentucky. However, it is rare in the remainder of the northeast, the Great Lakes states
36 and on the western periphery of its range.

37 Within Canada, Branched Bartonia is found in Ontario, the Maritimes and
38 Newfoundland. However, the subspecies that occurs in Ontario (*ssp. paniculata*) does
39 not occur in other provinces or territories. Like populations in Michigan and Wisconsin,
40 the Ontario populations are disjunct from those in the rest of the range. The Ontario
41 populations are genetically distinct and likely diverged from the core American range as
42 a result of glaciation. Recent studies have shown that this divergence likely happened
43 earlier than previously thought, and further studies are needed to increase
44 understanding of the life history of Ontario populations.

45 There are over 10 known extant populations of Branched Bartonia in Ontario, all
46 occurring in the Muskoka and Parry Sound area near Georgian Bay. Three of these
47 populations have been found since the development of the 2003 status report by the
48 Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The provincial
49 population is estimated to be 767 plants; however, given the more recent population
50 discoveries and the fact that the plant is easily overlooked in habitat that requires
51 significant surveying, this number is thought to be an underestimate of the Ontario
52 population.

53 In Ontario, Branched Bartonia is found on conservation reserves, in a provincial park
54 and on private lands. The species tends to inhabit wetland complexes, including bogs
55 and fens, on the Canadian Shield in areas with *Sphagnum* or other peatland mosses,
56 Tamarack (*Larix laricina*) and Black Spruce (*Picea mariana*). In order to establish
57 shoots and maintain plant health, Branched Bartonia relies on open habitat and
58 continuous substrate moisture. The hydrology of these habitats is typically stable but
59 does experience seasonal fluctuations. As a result, Branched Bartonia is especially
60 sensitive to habitat drying or water level stabilization that may favour establishment of
61 shrubs.

62 Branched Bartonia reproduces by seed, but this is not well understood, and it is not
63 known how long seeds may remain in the seed bank. Additionally, pollinators and
64 dispersal mechanisms for this species are not well known. Branched Bartonia may rely
65 on an association with specific mycorrhizal fungi (i.e., fungi that colonize the roots of a
66 plant thereby increasing their capacity to obtain nutrients) but further research in this
67 area is needed.

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68 The primary threat to Branched Bartonian is the impact of invasive species, specifically
69 Glossy Buckthorn (*Frangula alnus*) and to a lesser degree Phragmites (European
70 Common Reed) (*Phragmites australis* ssp. *australis*). Glossy Buckthorn has been
71 documented at three populations and can spread quickly, forming dense thickets. This
72 results in reduction in open habitat, competition for resources and changes in hydrology
73 (drying of habitat). Phragmites has effects that are similar to those of Glossy Buckthorn
74 on Branched Bartonian and its habitat and has been documented at one population.
75 Other potential threats to the species include trampling by humans, all-terrain vehicle
76 (ATV) use, peat harvesting, railway embankment expansion, reduction of pollinators
77 and climate change.

78 There are a number of knowledge gaps associated with Branched Bartonian that require
79 further research to support effective implementation of recovery actions. Threats to the
80 species are localized and require population-specific monitoring and actions. Ontario's
81 protection and recovery approaches will focus on research and monitoring actions to
82 help increase understanding of the species, its threats, ecological associations and life
83 history process; management of threats and habitat to ensure suitable conditions persist
84 for the species; and stewardship and awareness actions to improve knowledge of the
85 species and reduce human-caused threats.

86 **Government's Recovery Goal**

87 The government's goal for the recovery of Branched Bartonian is to maintain the current
88 distribution and support the viability of existing populations across Ontario.

89 **Actions**

90 Protecting and recovering species at risk is a shared responsibility. No single agency or
91 organization has the knowledge, authority or financial resources to protect and recover
92 all of Ontario's species at risk. Successful recovery requires inter-governmental
93 cooperation and the involvement of many individuals, organizations and communities. In
94 developing the government response statement, the government considered what
95 actions are feasible for the government to lead directly and what actions are feasible for
96 the government to support its conservation partners to undertake.

97 **Government-led Actions**

98 To help protect and recover Branched Bartonian, the government will directly undertake
99 the following actions:

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- 100 • Continue to monitor Branched Bartonia and manage its habitat in provincial parks
101 and protected areas.
- 102 • Continue to implement the [Ontario Invasive Species Strategic Plan \(2012\)](#) to
103 address the invasive species (e.g., Glossy Buckthorn, Phragmites) that threaten
104 Branched Bartonia.
- 105 • Continue to implement [Ontario's Invasive Species Act](#) to control the spread of
106 invasive species (i.e., Phragmites) that threaten Branched Bartonia by restricting
107 the importation, deposition, release, breeding/growing, buying, selling, leasing or
108 trading of Phragmites.
- 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 Branched Bartonia 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 Branched Bartonia 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 Branched Bartonia. 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 Branched Bartonia. Actions identified as “high” may be given priority
126 consideration for funding under the Species at Risk Stewardship Program. Where
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.

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131 **Focus Area: Research and Monitoring**
132 Objective: Increase knowledge of Branched Bartonian populations, biology, and
133 ecology.

134 There are a number of knowledge gaps related to Branched Bartonian. Implementation of
135 standardized monitoring, together with ecological research, will provide a greater
136 understanding of the species' population viability and factors that influence it. Increasing
137 understanding of Branched Bartonian's ecology will support effective implementation of
138 recovery actions in the future. Given the genetic distinctiveness of the Ontario Branched
139 Bartonian populations, it is of increased importance to understand their life history and
140 support their protection and recovery.

141 **Actions:**

- 142 1. **(High)** Develop and implement a standardized monitoring
143 protocol and program at locations where Branched Bartonian
144 occurs. The program should be designed and implemented to
145 contribute to research on population viability. The program
146 should aim to:
- 147 ○ monitor population trends, demographics and
148 reproductive success;
 - 149 ○ identify associated habitat features and conditions (e.g.,
150 percentage of canopy cover); and,
 - 151 ○ monitor and document threats to the species, including
152 the presence of invasive species (e.g., Glossy Buckthorn
153 and Phragmites).
- 154 2. **(High)** Collaborate with partners and other jurisdictions to
155 increase understanding of Branched Bartonian's ecological
156 needs, population viability and the factors that affect it. This may
157 include:
- 158 ○ investigating seed bank dynamics and associated
159 reproductive biology such as pollination, seed production
160 and seed germination;
 - 161 ○ studying factors believed to contribute to Branched
162 Bartonian mortality (e.g., vegetation succession and
163 invasive species);
 - 164 ○ characterizing the habitat and microhabitat of Branched
165 Bartonian with a focus on dependencies on hydrological

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166 processes, overstory openness and peatland bryophyte
167 species; and,

168 ○ investigating the potential association of mycorrhizal
169 fungi with Branched Bartonina.

170 3. Investigate the genetics of Ontario's Branched Bartonina
171 populations in relation to populations in the rest of its range to
172 more fully understand their distinctiveness and any associated
173 ecological and conservation implications

174 4. Conduct presence-absence surveys for Branched Bartonina in
175 additional Central Ontario peatlands.
176

Focus Area: Management and Habitat Protection

Objective: Reduce threats to Branched Bartonina and its habitat and support continued protection of habitat.

180 Branched Bartonina is primarily threatened locally by the presence of Glossy Buckthorn
181 and to a lesser degree by Phragmites. As a result, actions taken to address these
182 threats and evaluate the effectiveness of efforts are of great importance. However, it is
183 presently unknown which, if any, steps to mitigate threats can be implemented without
184 negatively affecting Branched Bartonina habitat and what the best approaches to
185 implementing these actions may be. As a result, it is necessary to determine best
186 practices for controlling Glossy Buckthorn and Phragmites in Branched Bartonina habitat.
187 Collectively working to maintain and secure habitat and habitat conditions necessary for
188 the species are also of integral importance in supporting Branched Bartonina across its
189 range.

Actions:

190
191 5. **(High)** Assess the feasibility of potential control measures to
192 manage the threat of Glossy Buckthorn or Phragmites in
193 locations where they pose a threat to Branched Bartonina. Where
194 measures can be effectively implemented without excessive
195 damage to Branched Bartonina habitat or harm to the plant,
196 implement measures and monitor outcomes.

197 6. Maintain or enhance habitat suitability within and adjacent to
198 areas currently occupied by Branched Bartonina in collaboration
199 with landowners or land managers. Actions should be informed
200 by best practices, include individuals with expertise to minimize
201 any negative effects, and be adapted based on effectiveness.

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- 202 7. Review available literature and develop best management
203 practices for reducing the spread of Glossy Buckthorn in
204 Branched Bartonian peatland habitats.
- 205 8. As opportunities arise, support the securement of Branched
206 Bartonian habitat that exists on privately owned lands through
207 existing land securement and stewardship programs.
208

Focus Area: Stewardship and Awareness

Objective: Increase awareness of the species, its habitat requirements and ways to minimize threats.

212 Branched Bartonian is found on conservation reserves, in protected areas and on private
213 lands. Collaboration amongst organizations and citizens is needed to support effective
214 implementation of recovery actions. Promoting awareness of Branched Bartonian, and
215 ways to minimize the primary threats to the species (e.g., invasive species), will
216 increase the level of understanding and support coordinated efforts across the species'
217 range. Similarly, given that threats are often localized, supporting increased species'
218 awareness and stewardship of local partners will support reduced threats posed by
219 human disturbance such as trampling, ATV use, peat harvesting and railway corridors.
220 Combining species-specific citizen science efforts with those for other species at risk in
221 the range of Branched Bartonian will improve efficiency and effectiveness.

Actions:

- 222 9. Collaborate with organizations, land managers, land users and
223 Indigenous communities and organizations to promote
224 awareness of Branched Bartonian in Ontario by sharing
225 information on:
226
- 227 ○ how to identify the species;
 - 228 ○ the species' habitat requirements;
 - 229 ○ actions that can be taken to reduce the spread and
230 impacts of invasive species (e.g., Glossy Buckthorn,
231 Phragmites);
 - 232 ○ the protection afforded to the species and its habitat
233 under the ESA; and,
 - 234 ○ actions that can be taken to avoid or minimize
235 recreational and development impacts to the species and
236 its habitat.

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237 **Implementing Actions**

238 Financial support for the implementation of actions may be available through the
239 Species at Risk Stewardship Program. Conservation partners are encouraged to
240 discuss project proposals related to the actions in this response statement with the
241 program staff. The Ontario government can also advise if any authorizations under the
242 ESA or other legislation may be required to undertake the project.

243 Implementation of the actions may be subject to changing priorities across the multitude
244 of species at risk, available resources and the capacity of partners to undertake
245 recovery activities. Where appropriate, the implementation of actions for multiple
246 species will be coordinated across government response statements.

247 **Reviewing Progress**

248 The ESA requires the Ontario government to conduct a review of progress towards
249 protecting and recovering a species not later than five years from the publication of this
250 response statement. The review will help identify if adjustments are needed to achieve
251 the protection and recovery of Branched Bartonian.

252 **Acknowledgement**

253 We would like to thank all those who participated in the development of the Recovery
254 Strategy for the Branched Bartonian (*Bartonia paniculata*) in Ontario for their dedication
255 to protecting and recovering species at risk.

256 **For Additional Information:**

257 Visit the species at risk website at ontario.ca/speciesatrisk
258 Contact the Natural Resources Information and Support Centre
259 1-800-667-1940
260 TTY 1-866-686-6072
261 nrisc@ontario.ca