

DRAFT Government Response Statement
to the
Recovery Strategy for the False Rue-anemone in Ontario

1 **False Rue-anemone**

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 False Rue-anemone \(*Enemion biternatum*\) in Ontario](#)
24 was completed on December 7, 2018.

25 False Rue-anemone is a delicate plant in the buttercup family that grows 10 to 40 cm
26 high. It has small, showy white flowers that bloom in the spring and is found in floodplain
27 and wooded slopes in the Carolinian zone. It can be confused with the related Rue-
28 anemone (*Thalictrum thalictroides*) which is found in drier habitats.

29 **Protecting and Recovering False Rue-anemone**

30 False Rue-anemone is listed as a threatened species under the ESA, which protects
31 both the plant and its habitat. The ESA prohibits harm or harassment of the species and

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32 damage or destruction of its habitat without authorization. Such authorization would
33 require that conditions established by the Ontario government be met.

34 The primary range of False Rue-anemone extends from southwestern Ontario in the
35 north, west to Minnesota and Iowa, south to Oklahoma, and east to Tennessee. It is
36 considered globally secure and is a common species in the central-eastern United
37 States. It is rare from eastern Texas to Alabama and also occurs in isolated patches
38 from northern Florida to Virginia and West Virginia. In Canada, False Rue-anemone is
39 restricted to scattered populations in southwestern Ontario.

40 Nine populations have been reported in Ontario within the Carolinian zone in southern
41 Ontario. Five of these populations are extant and range from Port Stanley on Lake Erie,
42 north to London Ontario, and west to Lambton County. The status of four populations
43 have not been recently confirmed and are considered historical: one north of Arva along
44 Medway Creek, one along the Thames River, one near Lynn Valley, and one east of
45 Arva. In 2005, the total estimated population of False Rue-anemone in Ontario was one
46 million stems. The species reproduces clonally, and this estimate may represent clones.
47 The largest populations are found within the Medway Valley Heritage Forest in the City
48 of London and along Kettle Creek. Together, these two populations contain more than
49 80 percent of the known False Rue-anemone plants in Canada.

50 Recent surveys in 2016 and 2017 respectively, rediscovered the species at
51 Middlemarch Forest and identified new subpopulations in Parkhill Conservation Lands.
52 Additional surveys are required to confirm the species' existence at historical locations
53 and follow-up on reports that the species may have previously occurred in or near the
54 Niagara Region.

55 False Rue-anemone is an herbaceous perennial found on private, municipal and
56 conservation authority lands. The species grows in a variety of vegetation types,
57 typically in mature, deciduous forests dominated by Sugar Maple (*Acer saccharum*). It
58 prefers shade and grows in large colonies on wooded slopes, river floodplains and in
59 shaded woods and thickets. False Rue-anemone has also been recently found in mixed
60 and early successional deciduous forests, which is not typical of previously known
61 habitats. Some populations are also found growing next to windfalls, edge habitats,
62 within large growths of invasive species and along well-used footpaths. Further
63 monitoring in these areas is required to determine the status of these populations.

64 False Rue-anemone flowers from April to early May and bears fruit from May to June. It
65 is mainly pollinated by insects and likely germinates in the fall. False Rue-anemone is
66 pollinated by a variety of insects, but the rate of visitation is low since the species does

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67 not produce nectar. Wind also plays a role in seed dispersal. Pollinator availability may
68 affect seed production; however, False Rue-anemone relies heavily on vegetative
69 propagation and impacts of pollinator declines are unknown.

70 The primary threats to False Rue-anemone are competition from invasive plants, soil
71 compaction from off-trail and on-trail recreational use and land development. Goutweed
72 (*Aegopodium podagraria*) has been identified as a primary threat along Medway Creek
73 (London), while Garlic Mustard (*Alliaria petiolata*) has been present at a number of
74 False Rue-anemone sites for many years with no previous evidence of out-competing.
75 However, some sites have not been visited in over a decade, and further investigation is
76 required to determine the potential impact and severity of this threat. Localized threats
77 from off-trail and on-trail recreational use, including all-terrain vehicles (ATV) use, are
78 compacting soils at some locations. Land development has been identified as a threat in
79 some areas where development pressures are increasing. Wood cutting operations,
80 herbicides, pesticides and road salting have also been identified as localized threats to
81 the species. The defoliation of co-occurring canopy species such as ash and beech
82 from pests (e.g., Emerald Ash Borer (*Agilus planipennis*)) and disease may also reduce
83 the habitat suitability for False Rue-anemone by increasing light levels. Further
84 monitoring and research is required to determine the effects these factors are having.

85 In addition to the unknowns in the threats identified above, knowledge gaps exist
86 regarding species' demographics (i.e., the size, status and behaviours of populations),
87 phenology (i.e., the timing of life cycle events influenced by seasonal variations) and
88 germination.

89 Ontario's protection and recovery approaches for False Rue-anemone will focus on
90 working collaboratively with land owners, researchers, other jurisdictions and land users
91 to reduce site-specific threats at extant sites while improving knowledge of population
92 viability, species' biology, the severity of threats and habitat requirements. As the status
93 of four out of nine populations of False Rue-anemone are unknown, recovery efforts will
94 also focus on surveying historical sites to refine knowledge of the current distribution in
95 Ontario. As further information is gathered about the species, including current locations
96 and the long-term viability in Ontario, the need for additional actions, including the
97 potential need for population management actions (e.g., augmentation) may be re-
98 evaluated.

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Government's Recovery Goal

The government's goal for the recovery of False Rue-anemone is to maintain the species' distribution and support viable populations in Ontario, and where feasible, enable natural increases in abundance by reducing threats to the species and its habitat.

Actions

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

Government-led Actions

To help protect and recover False Rue-anemone, the government will directly undertake the following actions:

- Continue to implement the [Ontario Invasive Species Strategic Plan \(2012\)](#) to address the invasive species (e.g., Goutweed) that threaten False Rue-anemone.
- Work with partners and stakeholders to support pollinator health in Ontario through actions such as integrated pest management and education.
- Educate other agencies and authorities involved in planning and environmental assessment processes on the protection requirements under the ESA.
- Encourage the submission of False Rue-anemone data to the Ontario's central repository through the citizen science project that they receive data from (i.e., [iNaturalist.ca](#)) and directly through the [Natural Heritage Information Centre](#).
- Undertake communications and outreach to increase public awareness of species at risk in Ontario.
- Continue to protect False Rue-anemone and its habitat through the ESA.
- Support conservation, agency, municipal and industry partners, and Indigenous communities and organizations to undertake activities to protect and recover

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129 False Rue-anemone. Support will be provided where appropriate through
130 funding, agreements, permits (including conditions) and/or advisory services.

- 131 • Encourage collaboration, and establish and communicate annual priority actions
132 for government support in order to reduce duplication of efforts.

133 **Government-supported Actions**

134 The government endorses the following actions as being necessary for the protection
135 and recovery of False Rue-anemone. Actions identified as “high” may be given priority
136 consideration for funding under the Species at Risk Stewardship Program. Where
137 reasonable, the government will also consider the priority assigned to these actions
138 when reviewing and issuing authorizations under the ESA. Other organizations are
139 encouraged to consider these priorities when developing projects or mitigation plans
140 related to species at risk.

141 **Focus Area: Research and Monitoring**

142 Objective: Increase knowledge of the species’ distribution, population viability,
143 biology as well as threats and actions that can be taken to address
144 them.

145 Implementing a standardized long-term monitoring program will improve our knowledge
146 of the distribution of False Rue-anemone and the long-term viability of its populations.
147 Documenting and monitoring habitat and threats can support improved understanding of
148 False Rue-anemone habitat requirements, provide evidence of habitat degradation, and
149 the severity of known threats. Surveying at sites where the species occurred historically
150 or is predicted to occur can improve our knowledge of the species’ distribution and
151 abundance. Filling key knowledge gaps related to the species’ biology and ecology in
152 Ontario can provide insight to the viability of populations and help guide management
153 actions. Where possible, partners are encouraged to coordinate monitoring and
154 research efforts with other stewards and jurisdictions to support efficient and effective
155 recovery implementation.

156 **Actions:**

- 157 1. **(High)** Develop and implement a standardized monitoring
158 program. The program should be designed and implemented to
159 contribute to research on population viability and include the
160 following:
- 161 ○ targeting extant populations to confirm or reconfirm
162 persistence;

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- 163 ○ documenting habitat characteristics and threats at all
164 known populations; and,
- 165 ○ monitoring abundance, demographics and reproductive
166 success.
- 167 2. **(High)** Survey for the presence/absence of additional
168 populations in the following locations:
- 169 ○ near extant populations within suitable habitat; and,
170 ○ at historical locations with suitable habitat characteristics
171 (i.e., Thames River, Medway Creek (North of Arva), Lynn
172 Valley, East of Arva) and where the species is predicted
173 to occur (e.g., Niagara).
- 174 3. Conduct research to determine detectability of False Rue-
175 anemone and use to inform presence/absence surveys at
176 historical population locations and where the species is
177 predicted to occur.
- 178 4. Collaborate with partners and other jurisdictions to increase
179 understanding of False Rue-anemone population viability and
180 the environmental conditions that affect it. This may include:
- 181 ○ studying the species' reproductive biology such as
182 pollination biology, seed production, seedling mortality,
183 germination and phenology;
- 184 ○ studying influences on population growth (e.g., potential
185 impacts from pollinator declines, invasive species,
186 overstory and soil surface disturbance, impacts of
187 disease and pests affecting forest canopy trees); and,
188 ○ conducting population viability analyses for known
189 populations.

191	Focus Area:	Management and Habitat Protection
192	Objective:	Maintain or improve the quality of habitat available for False Rue- 193 anemone, and reduce threats to the species.

194 False Rue-anemone occurs on publicly accessed land (conservation authority,
195 municipal, university/college campus lands) and on private land. Threats to False Rue-
196 anemone and its habitat vary by site but include soil compaction from ATV use and
197 trampling, competition from invasive species and land development. Wood cutting

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198 operations, spraying of harmful herbicides and pesticides and road salting are also
199 identified as localized threats for some subpopulations. As a result, a collaborative
200 approach to habitat management and protection is needed to support the recovery of
201 the species.

202 **Actions:**

203 5. **(High)** Work collaboratively with land owners and land
204 managers and the research community to develop, implement
205 and evaluate site management plans to maintain or improve the
206 quality of False Rue-anemone habitat at existing sites. Plans
207 should include:

- 208 ○ appropriate techniques informed and adapted by
209 research to remove invasive plants (e.g., Goutweed and
210 Garlic Mustard) if posing a direct threat to the species,
211 and monitoring success of management actions at
212 identified sites;
- 213 ○ minimizing the use of herbicides and pesticides where
214 they may affect False Rue-anemone and its pollinators;
- 215 ○ approaches to avoid or reduce impacts of recreational
216 activities on the species and its habitat (e.g., redirecting
217 recreational activities away from the species, erecting
218 physical barriers if appropriate, installing signage to alert
219 users); and,
- 220 ○ implementing best management techniques to minimize
221 canopy disturbance from tree removal.

222 6. Implement approaches to avoid or reduce impacts of
223 recreational activities on False Rue-anemone and its habitat
224 including:

- 225 ○ redirecting recreational activities away from the species;
- 226 ○ erecting physical barriers, if appropriate; and,
- 227 ○ installing signage to alert land users to the presence of
228 the species.

229 7. As opportunities arise, work with local land owners and
230 community partners to support the securement of habitat of
231 False Rue-anemone through existing land securement and
232 stewardship programs.

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233 **Focus Area: Awareness**
234 Objective: Increase public awareness of False Rue-anemone to minimize
235 threats to the species and its habitat.

236 Awareness is key factor in supporting recovery of the species. As the species occurs on
237 publicly accessed land and on private land, increased awareness is the first step to
238 support land owners and land managers in reducing threats to the species such as
239 invasive plants, off-trail and on-trail recreational activities and development.

240 **Actions:**

- 241 8. Promote awareness about False Rue-anemone among land
242 owners, land managers and land users by sharing information
243 on:
- 244 ○ how to identify the species;
 - 245 ○ the species' habitat requirements;
 - 246 ○ protection afforded to the species and its habitat under
247 the ESA; and,
 - 248 ○ actions that can be taken to reduce threats to the species
249 and its habitat (e.g., developing and distributing best
250 management practices for recreational activities to land
251 users).

252 **Implementing Actions**

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

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

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263 **Reviewing Progress**

264 The ESA requires the Ontario government to conduct a review of progress towards
265 protecting and recovering a species not later than five years from the publication of this
266 response statement. The review will help identify if adjustments are needed to achieve
267 the protection and recovery of False Rue-anemone.

268 **Acknowledgement**

269 We would like to thank all those who participated in the development of the Recovery
270 Strategy for the False Rue-anemone (*Enemion biternatum*) in Ontario for their
271 dedication to protecting and recovering species at risk.

272 **For Additional Information:**

273 Visit the species at risk website at ontario.ca/speciesatrisk
274 Contact the Natural Resources Information and Support Centre
275 1-800-667-1940
276 TTY 1-866-686-6072
277 nrisc@ontario.ca