

DRAFT Government Response Statement  
to the  
Recovery Strategy for the Butler's Gartersnake in Ontario

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1 **Butler's Gartersnake**

2 **Ontario Government Response Statement**

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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 Butler's Gartersnake (*Thamnophis butleri*) in Ontario was  
24 completed on July 22, 2019.

25 Butler's Gartersnake is a small snake, with adults ranging from 38 to 51 cm in length. It  
26 is brown with a yellowish chin and belly, a yellow stripe running down the back and one  
27 down each side. The species is found in prairie habitats, fields, wetland edges and  
28 grassy areas in urban areas.

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30 **Protecting and Recovering Butler's Gartersnake**

31 Butler's Gartersnake is listed as an endangered species under the ESA, which protects  
32 both the animal and its habitat. The ESA prohibits harm or harassment of the species  
33 and damage or destruction of its habitat without authorization. Such authorization would  
34 require that conditions established by the Ontario government be met.

35 The global distribution of Butler's Gartersnake is patchy and restricted to southwestern  
36 Ontario in Canada and parts of four U.S. states in the Great Lakes region (Wisconsin,  
37 Ohio, Indiana and Michigan).

38 In Canada, 48 sub-populations of Butler's Gartersnake have been documented in four  
39 geographically isolated regions in southwestern Ontario: Windsor-Sarnia (Essex,  
40 Chatham-Kent, and Lambton counties), Luther Marsh (Dufferin and Wellington  
41 counties), Skunk's Misery and Parkhill (Middlesex County). The Windsor-Sarnia region  
42 is thought to contain between 27 and 38 extant sub-populations; however, the species'  
43 presence at several of these sites has not been re-confirmed in the last 10 years.  
44 Recent targeted surveys in an area near the Ojibway Prairie location (Windsor) indicate  
45 the species may now be extirpated from this site. The last verified record in the Luther  
46 Marsh region was also in 2009. The status of Butler's Gartersnake in the remaining two  
47 regions (Skunk's Misery, Parkhill) is unknown, as the species has not been confirmed at  
48 these sites in over 20 years. The species is considered extirpated from a fifth region  
49 near Rondeau Provincial Park. Given the unknown status of Butler's Gartersnakes in  
50 Skunk's Misery, Parkhill and several sub-populations last observed in 2009, further  
51 surveys and monitoring are required to refine our knowledge of the distribution of the  
52 species in Ontario.

53 While total population abundance is not fully understood, reliable population estimates  
54 were obtained for a few of the Windsor sub-populations during the Herb Gray Parkway  
55 (HGP) construction project in both natural and restored sites. Monitoring associated with  
56 this project suggests that populations can be locally abundant in the Windsor region, but  
57 that most local sub-populations exist in small and/or isolated habitat fragments.

58 Butler's Gartersnakes use a diversity of early successional habitats across their range  
59 including open areas with dense grasses, typically in close proximity to wet areas, such  
60 as cultural meadows, grasslands, old fields, and tallgrass prairie communities. The  
61 species is also found along treed edges in vacant lots, small parks and abandoned sites  
62 in urban areas. The species gives birth to live young and uses lowland areas or wet  
63 depressions as live-birthing habitat. Crayfish burrows, mammal burrows, drains, log  
64 piles and other underground sites are used for hibernation. The species has become

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65 dependent on earthworms as its preferred food source, restricting its distribution to  
66 grassland habitats associated with wet or moist areas. Open spaces in vegetation,  
67 edges of water, logs, coverboards, and brush piles provide important thermoregulation  
68 features (i.e., areas that aid intemperature regulation). Individuals have a relatively  
69 small home range and tend to remain in the same area, but some make large seasonal  
70 migrations, particularly females migrating to live-birthing areas. Given the small sub-  
71 population sizes in Ontario, the small home ranges and low dispersal capacity of the  
72 species may limit its ability to adapt to environmental change and could make  
73 populations susceptible to higher extinction risk.

74 The most significant threat to Butler's Gartersnake is ongoing habitat loss, degradation  
75 and fragmentation from urban, industrial and agricultural development. As the species is  
76 found in a highly urban landscape, it is also threatened by frequent mowing and  
77 management of lawns which may harm the species and eliminate habitat. Other threats  
78 to the species' habitat include altered disturbance regimes (e.g., succession), as the  
79 species relies on grassland or open habitat, and invasive species (e.g., *Phragmites*  
80 (European Common Reed) (*Phragmites australis ssp australis*)), which may shade  
81 basking sites and eliminate live-birthing areas. Butler's Gartersnakes are also affected  
82 by several other threats including road mortality subsidized predation (e.g., dogs, cats,  
83 raccoons, skunks), direct persecution and collection for pets. Harmful pesticides and  
84 herbicides in nearby areas may affect earthworms, their main source of prey. Snake  
85 fungal disease (SFD) is a potential threat to this species but has not yet been confirmed  
86 in Butler's Gartersnake in Ontario. The fungus is now known to occur within the Ontario  
87 range of this species, and at least one Butler's Gartersnake has been observed with  
88 clinical signs that are consistent with SFD.

89 Many of the Butler's Gartersnake sub-populations are isolated from each other,  
90 particularly the local sub-populations found in a highly urban landscape in the Windsor-  
91 Sarnia region. Recent surveys have not detected the species at several sites where  
92 they were formerly known to occur, and ongoing habitat loss and fragmentation  
93 continues to threaten the species. As such, recovery efforts will focus on maintaining  
94 habitat, improving habitat connectivity between occupied habitats, mitigating threats and  
95 filling knowledge gaps related to the distribution, spatial ecology and habitat use of  
96 Butler's Gartersnake in both natural and restored sites.

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99 **Government's Recovery Goal**

100 The government's goal for the recovery of Butler's Gartersnake is to maintain the  
101 current abundance and distribution of all extant sub-populations. Where biologically and  
102 technically feasible, natural increases in the distribution and abundance of extant sub-  
103 populations should be enabled by managing and restoring the species' habitat,  
104 improving habitat connectivity between local sub-populations, and reducing threats.

105 **Actions**

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

113 **Government-led Actions**

114 To help protect and recover Butler's Gartersnake, the government will directly undertake  
115 the following actions:

- 116
- 117 • Continue to monitor and manage the habitat of Butler's Gartersnake in provincially protected areas and monitor populations, where feasible.
  - 118 • Continue to implement the *Ontario Invasive Species Strategic Plan (2012)* to  
119 address the invasive species (e.g., Reed Canary Grass (*Phalaris arundinacea*))  
120 that threaten Butler's Gartersnake.
  - 121 • Continue to implement Ontario's *Invasive Species Act* to control the spread of  
122 invasive species (e.g., Phragmites) that threaten Butler's Gartersnake by  
123 restricting the importation, deposition, release, breeding/growing, buying, selling,  
124 leasing or trading of Phragmites.
  - 125 • Educate other agencies and authorities involved in planning and environmental  
126 assessment processes on the protection requirements under the ESA.

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- 127 • Encourage the submission of Butler’s Gartersnake data to the Ontario’s central  
128 repository through the citizen science projects that they receive data from (i.e.,  
129 [iNaturalist.ca](https://www.inaturalist.ca)) and directly through the [Natural Heritage Information Centre](#).
- 130 • Undertake communications and outreach to increase public awareness of  
131 species at risk in Ontario.
- 132 • Continue to protect Butler’s Gartersnake and its habitat through the ESA.
- 133 • Support conservation, agency, municipal and industry partners, and Indigenous  
134 communities and organizations to undertake activities to protect and recover  
135 Butler’s Gartersnake. Support will be provided where appropriate through  
136 funding, agreements, permits (including conditions) and/or advisory services.
- 137 • Encourage collaboration and establish and communicate annual priority actions  
138 for government support in order to reduce duplication of efforts.
- 139 • Conduct a review of progress toward the protection and recovery of Butler’s  
140 Gartersnake within five years of the publication of this document.

141 **Government-supported Actions**

142 The government endorses the following actions as being necessary for the protection  
143 and recovery of Butler’s Gartersnake. Actions identified as “high” may be given priority  
144 consideration for funding under the Species at Risk Stewardship Program. Where  
145 reasonable, the government will also consider the priority assigned to these actions  
146 when reviewing and issuing authorizations under the ESA. Other organizations are  
147 encouraged to consider these priorities when developing projects or mitigation plans  
148 related to species at risk.

149 **Focus Area: Habitat Management and Protection**

150 Objective: Maintain, protect and improve the quality of existing habitat and  
151 increase habitat area and connectivity.

152 The majority of Butler’s Gartersnake populations are found in a heavily urbanized  
153 landscape where development pressure continues to increase. As such, improving  
154 habitat connectivity (including reducing further fragmentation) is a key component of  
155 landscape-level, habitat-focussed recovery actions for this species. At the site scale,  
156 habitat management actions to improve the quantity and quality of habitat for the  
157 species will support the recovery of each sub-population. As land ownership varies  
158 across the species’ distribution and it is largely found in urban areas, a collaborative  
159 approach to habitat management and protection is critical to the protection and recovery

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160 of this species. Whenever possible, habitat management techniques should adhere to  
161 best science advice (e.g., *Best Management Practices for Identifying, Managing and*  
162 *Creating Habitat for Ontario's Species at Risk Snakes*).

163 **Actions:**

- 164 1. **(High)** Work collaboratively with local landowners, land  
165 managers, industry stakeholders, organizations, government  
166 agencies, and Indigenous communities and organizations to  
167 develop and implement habitat management and restoration  
168 techniques and monitor their effectiveness. This may include:
- 169 ○ developing and implementing coordinated habitat  
170 management plans to increase habitat suitability and  
171 connectivity, and to create, enhance and restore habitat  
172 at priority sites;
  - 173 ○ creating live-birthing, hibernation and shelter habitat in  
174 appropriate areas, recognizing the need to improve  
175 knowledge of the design and construction of these  
176 features;
  - 177 ○ implementing techniques to maintain open, early  
178 successional habitat using methods such as mechanical  
179 removal of woody vegetation, prescribed burns and low-  
180 density livestock grazing, as appropriate; and,
  - 181 ○ where possible, encouraging alternatives to chemical use  
182 (e.g., fertilizers, pesticides, herbicides) that may impact  
183 Butler's Gartersnake habitat (e.g., grassland  
184 communities).
- 185 2. **(High)** Work with local land owners, municipalities and  
186 community partners to strategically secure Butler's Gartersnake  
187 habitat and encourage long term protection through existing  
188 land securement and stewardship programs and/or land-  
189 securement agencies, including land that would support  
190 improved habitat connectivity.

191 **Focus Area: Research and Monitoring**

192 Objective: Increase knowledge of species biology, abundance, distribution,  
193 threats and effectiveness of recovery actions.

194 Many knowledge gaps exist related to habitat use at various life stages, emerging and  
195 landscape-level threats, and species' biology and ecology. Continued efforts to conduct

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196 inventory and monitoring and encourage collaboration amongst citizen science  
197 programs and Indigenous communities and organizations will support a greater  
198 understanding of population trends and the impact of threats. A standardized  
199 monitoring, inventory and reporting program is important to improve our knowledge of  
200 the abundance and distribution of this species. Targeted surveys will also help to  
201 confirm local habitat use, as well as the effectiveness of habitat creation and restoration  
202 efforts. Wherever possible, surveys should follow a standardized, science-based  
203 approach for field surveys using the “*Survey protocol for Ontario’s species at risk*  
204 *snakes*”. Filling knowledge gaps related to species’ biology, ecology and threats will  
205 provide information to determine the species’ ability to persist, inform the design and  
206 creation of habitat features at restored sites, and will help determine where recovery  
207 efforts are best focused.

208 **Actions:**

- 209 3. **(High)** Work collaboratively with local landowners, land  
210 managers, industry stakeholders, organizations, government  
211 agencies, and Indigenous communities and organizations to  
212 develop and implement a standardized survey, monitoring,  
213 inventory and reporting program that includes:
- 214 ○ monitoring distribution and abundance of the species at  
215 representative sites across its range in Ontario to identify  
216 and track changes in population abundance over time;
  - 217 ○ assessing species’ presence at sites lacking recent  
218 observations and refine knowledge of the local and  
219 regional distribution of Butler’s Gartersnake in Ontario;
  - 220 ○ monitoring emerging and existing threats to the species;  
221 and,
  - 222 ○ encouraging participation in citizen science data  
223 collection programs (e.g., iNaturalist).
- 224 4. Investigate the scale and potential impacts of threats such as  
225 snake fungal disease, road mortality, pollution, invasive species,  
226 predation from native species and feral pets (e.g., cats),  
227 persecution, and collection.
- 228 5. Conduct research to determine the effectiveness of threat  
229 mitigation techniques, recovery approaches and best  
230 management practices, including:



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- 266 techniques and approaches to reduce threats to the species.  
267 Techniques and approaches should be adapted based on the  
268 results of effectiveness research (see Action 5). This may  
269 include:
- 270 ○ developing and implementing best management  
271 practices for minimizing the impact of roads and road  
272 construction on the species, including avoidance of  
273 sensitive habitat areas, temporary or permanent closures  
274 of existing roads, use of wildlife bridges and  
275 ecopassages, installation of fencing, and improving driver  
276 awareness;
  - 277 ○ developing training programs and tools for those  
278 conducting activities that may impact the species (e.g.,  
279 construction workers), including providing guidance on  
280 the identification and ecological importance of snakes  
281 and activity-specific best management practices to  
282 minimize threats to the species;
  - 283 ○ developing and implementing best management  
284 practices for the maintenance of natural vegetation and  
285 woody debris, and minimizing the impact of mowing on  
286 the species; and,
  - 287 ○ developing and/or refining best management practices,  
288 based on effectiveness monitoring and research, to  
289 inform implementation of salvage and translocation  
290 techniques where it is required to mitigate the impact of  
291 activities.
- 292 9. Promote public awareness of Butler's Gartersnake, including its  
293 status and protection under the ESA, and engage the public in  
294 Butler's Gartersnake stewardship. This may include:
- 295 ○ Developing and evaluating effectiveness of interactive  
296 social media and social marketing campaigns to promote  
297 Butler's Gartersnake stewardship and reduce the threat  
298 of persecution and illegal collection. Coordinate with  
299 other species at risk snake initiatives where appropriate;

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- 300                   ○ installing permanent signage at park trailheads to  
301                   educate local trail users about Butler's Gartersnake that  
302                   may be basking on the trail; and,
- 303                   ○ working collaboratively with land owners, land managers,  
304                   municipalities and other stakeholders to increase their  
305                   awareness of Butler's Gartersnake, and how to minimize  
306                   impacts of activities that threaten the species (e.g., timing  
307                   of prescribed burns, wetland drainage, mowing activities).

308   **Implementing Actions**

309   Financial support for the implementation of actions may be available through the  
310   Species at Risk Stewardship Program. Conservation partners are encouraged to  
311   discuss project proposals related to the actions in this response statement with Ministry  
312   of the Environment, Conservation and Parks staff. The Ontario government can also  
313   advise if any authorizations under the ESA or other legislation may be required to  
314   undertake the project.

315   Implementation of the actions may be subject to changing priorities across the multitude  
316   of species at risk, available resources and the capacity of partners to undertake  
317   recovery activities. Where appropriate, the implementation of actions for multiple  
318   species will be co-ordinated across government response statements.

319   **Reviewing Progress**

320   The ESA requires the Ontario government to conduct a review of progress towards  
321   protecting and recovering a species no later than the time specified in the species'  
322   government response statement, or not later than five years after the government  
323   response statement is published if no time is specified. The review will help identify if  
324   adjustments are needed to achieve the protection and recovery of Butler's Gartersnake.

325   **Acknowledgement**

326   We would like to thank all those who participated in the development of the Recovery  
327   Strategy for the Butler's Gartersnake (*Thamnophis butleri*) in Ontario for their dedication  
328   to protecting and recovering species at risk.

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330 **For Additional Information:**

331 Visit the species at risk website at [ontario.ca/speciesatrisk](http://ontario.ca/speciesatrisk)

332 Contact the Ministry of the Environment, Conservation and Parks

333 1-800-565-4923

334 TTY 1-855-515-2759

335 [www.ontario.ca/environment](http://www.ontario.ca/environment)