

**Ontario Species at Risk Evaluation Report for  
Striped Whitelip  
Polyspire rayé  
(*Webbhelix multilineata*)**

Committee on the Status of Species at Risk in Ontario  
(COSSARO)

Assessed by COSSARO as *Endangered*

January 2021

## Polyspire rayé (*Webbhelix multilineata*)

Le polyspire rayé (*Webbhelix multilineata*) est classé dans la catégorie des espèces en voie de disparition en Ontario par le CDSEPO.

Le polyspire rayé (*Webbhelix multilineata*) est un escargot terrestre relativement gros (largeur maximale de la coquille de l'adulte variant de 2,0 à 2,5 cm), à la coquille mince et de forme globuleuse aplatie (Pilsbry, 1940). Sa coquille présente des rainures peu profondes en surface et un péristome blanc, réfléchi, chez l'adulte. Elle comporte des bandes spiralées roussâtres peu nombreuses à nombreuses sur fond jaune pâle.

L'animal est de couleur gris clair à gris foncé, ce qui peut faire paraître sa coquille brun foncé. La zone d'occurrence et la zone d'occupation de l'espèce sont très limitées et vraisemblablement fragmentées en Ontario et les menaces qui pèsent sur l'espèce dans son habitat spécialisé vont vraisemblablement persister. Par conséquent, cette espèce est évaluée comme étant en voie de disparition en Ontario.

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## Executive summary

The Striped Whitelip (*Webbhelix multilineata*) is a relatively large land snail (maximum shell breadth of adults: 2.0–2.5 cm) with a thin, depressed-globose shell (Pilsbry 1940). The shell has shallow grooves on the surface of the shell, and a reflected, white apertural lip in adults. The shell has a few to many russet-coloured spiral bands on a pale yellow background. The animal is light to dark grey, which can give the shell a dark brown appearance. The species has a very limited and likely fragmented EOO and IAO in Ontario, and threats to the species in its specialized habitat are likely to continue. As a result the species is assessed as *Endangered* in Ontario.

# 1. Eligibility for Ontario status assessment

## 1.1. Eligibility conditions

### 1.1.1. Taxonomic distinctness

The Striped Whitelip (*Webbhelix multilineata*) is a recognized and distinct taxon in a monotypic genus (Turgeon et al. 1998).

### 1.1.2. Designatable Units

All Canadian subpopulations are within the Great Lakes Plains ecological area. Although there has been a suggestion that specimens from the Pelee Island are a separate species (Grimm 1996), they were never described and recognized as such. Therefore, all Canadian occurrences are considered to be a single designatable unit.

### 1.1.3. Native status

The Striped Whitelip (*Webbhelix multilineata*) is native to Canada and Ontario.

### 1.1.4. Occurrence

The Striped Whitelip (*Webbhelix multilineata*) is known to occur in Ontario.

## 1.2. Eligibility results

The Striped Whitelip (*Webbhelix multilineata*) is eligible for status assessment in Ontario.

# 2. Background information

## 2.1. Current designations

- GRANK: G5, Secure (NatureServe 2018)
- IUCN: Not assessed
- NRANK Canada: N1N2, Critically Imperiled to imperiled
- COSEWIC: Endangered, (COSEWIC 2018)
- SARA: Under Consideration for Addition
- ESA 2007: Not listed
- SRANK: S2S3, Imperiled to Vulnerable

## 2.2. Distribution in Ontario

The Striped Whitelip (*Webbhelix multilineata*) has an eastern North American

distribution from Indiana to Kansas. Ontario represents the northern limit of the species' range. The current range in Ontario includes sites from two counties (Essex and Lambton), where live individuals or shells have been found recently. The species is known to be extant in Fish Point PNR and Stone Road Alvar on Pelee Island and on the mainland in Bickford Oak Woods Conservation Reserve, Walpole Island, and Point Pelee National Park. The known occurrences of Striped Whitelip were reduced from 12 to seven sites (42% reduction), because it has not been seen alive despite repeated and recent searches during the last 20 years at the sites in Chatham, Sarnia, Devonwood Conservation Area and Canard River Scout Camp near Windsor, and Lighthouse Point on Pelee Island.

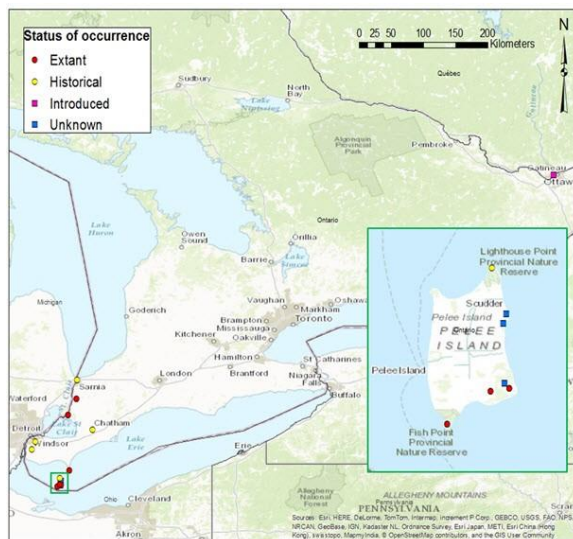


Figure 3. Distribution of Striped Whitelip, *Webbhelix multilineata* in Ontario. “Unknown” means the presence of the species is unknown, because only shells have been found (from COSEWIC 2018).

### 2.3. Distribution, status and the broader biologically relevant geographic range outside Ontario

The broader distribution of the southern limit is Arkansas/Tennessee in the west and Maryland in the east (Figure 1). Current east-west distribution extends from West Virginia to Kansas/Nebraska.

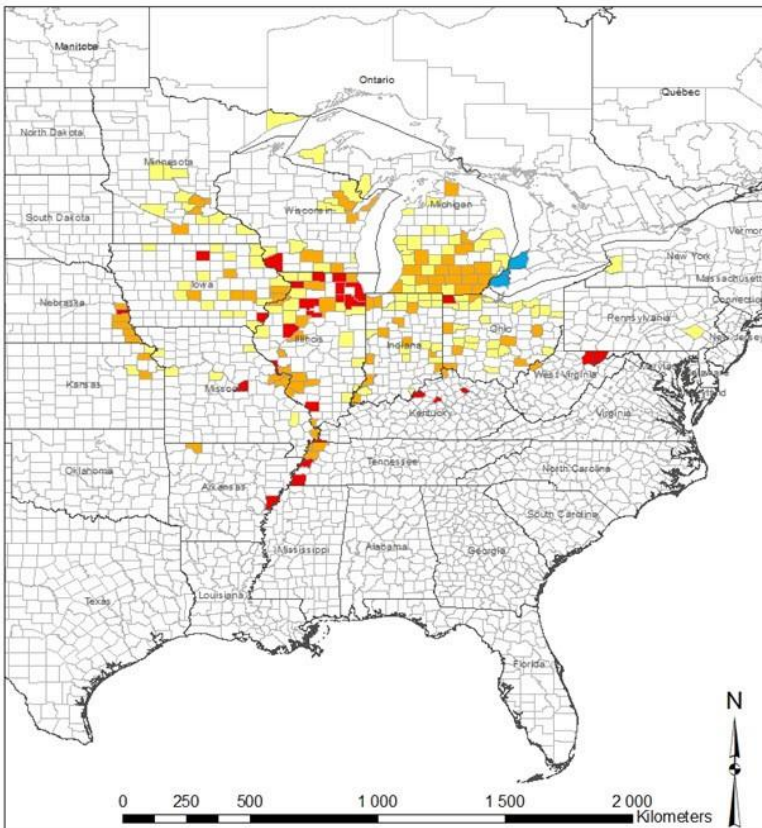


Figure 1. Global distribution of Striped Whitelip (*Webbhelix multilineata*). Canadian counties in Ontario (blue) and US counties (yellow). Note that the species does not occur in the entire county (from COSEWIC 2018).

The extent of occurrence (EOO) of Striped Whitelip in Canada is 887 km<sup>2</sup> as measured by the minimum convex polygon method, excluding those sites where the species is presumed to be extirpated, but including those sites where the status is unknown (Table 1). Much of this area is covered by water (Lake Erie) and unsuitable land. The index of area of occupancy (IAO) is 104 km<sup>2</sup>. There has been an estimated reduction in IAO by about 16% within the last 20 years.

Table 1. Condition of the Species in Adjacent Jurisdictions and Broader Biologically Relevant Geographic Range

Adjacent Jurisdictions	Biologically Relevant to Ontario (n/a, yes, no)	Condition	Notes & Sources
Quebec	Yes	SNR	NatureServe 2018
Manitoba	No	n/a	
Michigan	Yes	SNR	NatureServe 2018
Minnesota	No	SNR	NatureServe 2018
Nunavut	No	n/a	
New York	Yes	SNR	NatureServe 2018

<b>Adjacent Jurisdictions</b>	<b>Biologically Relevant to Ontario (n/a, yes, no)</b>	<b>Condition</b>	<b>Notes &amp; Sources</b>
Ohio	Yes	SNR	NatureServe 2018
Pennsylvania	Yes	SH	NatureServe 2018
Wisconsin	Yes	S5	NatureServe 2018
<i>Other Relevant Jurisdiction</i>			

## 2.4. Ontario conservation responsibility

Ontario's conservation responsibility for the Striped Whitelip (*Webbhelix multilineata*) is relatively small. With only a minimum of 4 extant populations (Point Pelee National Park, in Bickford Oak Woods Conservation Reserve, on Walpole Island, and on Pelee Island), and the species listed as stable across its entire range. The Ontario portion of the range is relatively small, although no estimation of the percent of the total range is located in Ontario is available. The northern edge of the species distribution may be important for the conservation of the species. It is unknown as to whether the populations of Ontario may act as a sink, but given the species limited mobility that is unlikely.

## 2.5. Direct threats

Threats to the Striped Whitelip (*Webbhelix multilineata*) are rated between low and moderate. Climate change related effects of extreme weather events, habitat shifts and extreme temperatures or prolonged drought. Human alteration and activity can also be a factor, as trampling can occur when the species forages on trails during ephemeral wet events. Alteration to natural systems through such means as controlled burns may also have an impact. All of these factors are thought to have a low and in some cases moderate potential for impact, but there is no data to quantify the likely effects, or the probability they will contribute to the species decline.

## 2.6 Specialized life history or habitat use characteristics

The Striped Whitelip (*Webbhelix multilineata*) is considered a specialist on lowland, wet forest, and may thus be both adapted to some potential threats (like flooding) while at the same time be limited in dispersal ability.

## 3. Ontario status assessment

### 3.1. Application of endangered/threatened status in Ontario

#### 3.1.1. Criterion A – Decline in total number of mature individuals

Not applicable.

### 3.1.2. Criterion B – Small distribution range and decline or fluctuation

Meets criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v) for Endangered, with an at EOO 887 km<sup>2</sup> and IAO of 104 km<sup>2</sup>. As all threats are considered ongoing, it is expected the declines seen over the past 20 years are likely to continue.

### 3.1.3. Criterion C – Small and declining number of mature individuals

Not applicable.

### 3.1.4. Criterion D – Very small or restricted total population

Not applicable.

### 3.1.5. Criterion E – Quantitative analysis

Not applicable.

## 3.2. Application of Special Concern in Ontario

Not applicable.

## 3.3. Status Category Modifiers

### 3.3.1. Ontario's conservation responsibility

Ontario's conservation responsibility may be relatively low, as the species is considered secure in other parts of its North American range.

### 3.3.2. Status modification based on rescue effect or level of risk in broader biologically relevant geographic range

Not applicable.

## 3.4. Other status categories

### 3.4.1. Data deficient

Not applicable.

### 3.4.2. Extinct or extirpated

Not applicable.



### 3.4.3. Not at risk

Not applicable.

## 4. Summary of Ontario status

The Striped Whitelip (*Webbhelix multilineata*) is assessed as *Endangered*, as the species meets criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v) for Endangered, with an at EOO 887 km<sup>2</sup> and IAO of 104 km<sup>2</sup>. As all threats are considered ongoing, it is expected the declines seen over the past 20 years are likely to continue.

*This status of this species is consistent with the definition of Classification under the Endangered Species Act, 2007.*

## 5. Information sources

COSEWIC. 2018. COSEWIC assessment and status report on the Striped Whitelip *Webbhelix multilineata* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 62 pp. ([Species at Risk Public Registry](#)).

Grimm, F.W. 1996. Terrestrial molluscs. In I.M. Smith, Assessment of species diversity in the Mixedwood Plains ecosystem. Ecological Monitoring and Assessment Network.

Pilsbry, H.A. 1940. Land Mollusca of North America (North of Mexico). Volume 1, Part 2. Academy of Natural Sciences of Philadelphia, Monograph 3:i–vi + 575–997.

Turgeon, D.D., J.F. Quinn, Jr., A.E. Bogan, E.V. Coan, F.G. Hochberg, W.G. Lyons, P. Mikkelsen, R.J. Neves, C.F.E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F.G. Thompson, M. Vecchione, and J.D. Williams. 1998. Common and Scientific Names of Aquatic Invertebrates from the United States and Canada: Mollusks, Second Edition. American Fisheries Society Special Publication. 26. Bethesda, Maryland. 526 pp.

<sup>1</sup> A change in the classification of a species during reassessment by COSSARO may be for genuine or non-genuine reasons. Genuine reasons may include a reduction in threats to a species such that status of the species has improved, or the continuation of threats to the species such that the status of the species has further deteriorated. Non-genuine reasons may include new information on population size or threats that was not available during a previous assessment, the use of previous COSSARO criteria that may have yielded a different result or, taxonomic revisions that result in changes in range, population sizes or designatable units.

## Appendix 1: Technical summary for Ontario

Species: Striped Whitelip (*Webbhelix multilineata*)

### Demographic information

Demographic attribute	Value
Generation time. Based on average age of breeding adult: age at first breeding = X year; average life span = Y years.	~4 years
Is there an observed, inferred, or projected continuing decline in number of mature individuals?	Yes
Estimated percent of continuing decline in total number of mature individuals within 5 years or 2 generations.	Insufficient data
Observed, estimated, inferred, or suspected percent reduction or increase in total number of mature individuals over the last 10 years or 3 generations.	Insufficient data
Projected or suspected percent reduction or increase in total number of mature individuals over the next 10 years or 3 generations.	Insufficient data
Observed, estimated, inferred, or suspected percent reduction or increase in total number of mature individuals over any 10 years, or 3 generations, over a time period including both the past and the future.	Insufficient data
Are the causes of the decline (a) clearly reversible, and (b) understood, and (c) ceased?	a. No b. No c. No
Are there extreme fluctuations in number of mature individuals?	No

### Extent and occupancy information in Ontario

Extent and occupancy attributes	Value
Estimated extent of occurrence (EOO). <i>If value in COSEWIC status report is not applicable, then use <a href="http://geocat.kew.org">geocat.kew.org</a>. State source of estimate.</i>	887 km <sup>2</sup>
Index of area of occupancy (IAO). <i>If value in COSEWIC status report is not applicable, then use <a href="http://geocat.kew.org">geocat.kew.org</a>. State source of estimate.</i>	104 km <sup>2</sup>
Is the total population severely fragmented? i.e., is >50% of its total area of occupancy is in habitat patches that are: (a) smaller than would be required to support a viable population, and	a. No b. Probably

<b>Extent and occupancy attributes</b>	<b>Value</b>
(b) separated from other habitat patches by a distance larger than the species can be expected to disperse?	
Number of locations. <i>See Definitions and Abbreviations on COSEWIC and IUCN websites for more information on the term "location". Use plausible range to reflect uncertainty if appropriate.</i>	4
Number of NHIC Element Occurrences <i>Request data from MNR.</i>	4
Is there an observed, inferred, or projected continuing decline in extent of occurrence?	Yes
Is there an observed, inferred, or projected continuing decline in index of area of occupancy?	Yes
Is there an observed, inferred, or projected continuing decline in number of sub-populations or EOs?	Unknown
Is there an observed, inferred, or projected continuing decline in number of locations?	Unknown
Is there an observed, inferred, or projected continuing decline in [area, extent and/or quality] of habitat?	Unknown
Are there extreme fluctuations in number of populations?	No
Are there extreme fluctuations in number of locations?	No
Are there extreme fluctuations in extent of occurrence?	No
Are there extreme fluctuations in index of area of occupancy?	No

Number of mature individuals in each sub-population or total population (if known)

<b>Sub-population (or total population)</b>	<b>Number of mature individuals</b>
Point Pelee National Park	Unknown
Bickford Oak Woods Conservation Reserve	Unknown
Walpole Island	Unknown
Pelee Island	Unknown
Total	Unknown

Quantitative analysis (population viability analysis conducted)

N/A

Threats

Effects of climate change (extreme weather, prolonged droughts, flooding, shifted

habitat), human intervention (trampling) and altered natural disturbance (controlled burning).

## Rescue effect

<b>Rescue effect attribute</b>	<b>Value</b>
Does the broader biologically relevant geographic range for this species extend beyond Ontario?	Yes
Status of outside population(s) most likely to provide immigrants to Ontario	Status not ranked in all adjacent jurisdictions with extant populations by two: Wisconsin ranked as S5 (Secure) and Pennsylvania ranked as SH (likely Extinct).
Is immigration of individuals and/or propagules between Ontario and outside populations known or possible?	Not likely. Dispersal capability are considered low.
Would immigrants be adapted to survive in Ontario?	Yes
Is there sufficient suitable habitat for immigrants in Ontario?	Unknown
Are conditions deteriorating in Ontario?	Unknown
Is the species of conservation concern in bordering jurisdictions?	Mostly unknown
Is the Ontario population considered to be a sink?	Not likely
Is rescue from outside populations likely?	Not likely

## Sensitive species

No.

## Acronyms

COSEWIC: Committee on the Status of Endangered Wildlife in Canada  
COSSARO: Committee on the Status of Species at Risk in Ontario  
ESA: Endangered Species Act  
EO: Element occurrence (as defined by NHIC)  
EOO: extent of occurrence  
GRANK: global conservation status assessments  
IAO: index of area of occupancy  
IUCN: International Union for Conservation of Nature and Natural Resources  
MNRF: Ministry of Natural Resources and Forestry  
NHIC: Natural Heritage Information Centre  
NNR: Unranked  
NRANK: National conservation status assessment  
SARA: Species at Risk Act  
SNR: unranked  
SRANK: subnational conservation status assessment  
S1: Critically Imperiled  
S2: Imperiled  
S3: Vulnerable  
S4: Apparently Secure  
S5: Secure  
IUCN: International Union for Conservation of Nature and Natural Resources  
CDSEPO: Le Comité de détermination du statut des espèces en péril en Ontario