



The Species Status Advisory Committee

**Status Review of**  
**Alaska Rein Orchid**

*Platanthera unalascensis*  
(formerly *Platanthera foetida*)

in Newfoundland and Labrador



Department of Fisheries and Land Resources  
Forestry and Wildlife Research Division

Available in alternate formats.

Please contact the Department of Fisheries and Land Resources  
at 709-637-2025 or [endangeredspecies@gov.nl.ca](mailto:endangeredspecies@gov.nl.ca).

## **Cover Photographs**

Partial inflorescence in habitat: Aare Voitek

Plant in habitat: Aare Voitek

Partial inflorescence: Aare Voitek

## **Recommended Citation**

Species Status Advisory Committee. 2019. Status Review for Alaska Rein Orchid *Platanthera unalascensis* (formerly *Platanthera foetida*) in Newfoundland and Labrador. Forestry and Wildlife Research Division, Department of Fisheries and Land Resources, Government of Newfoundland and Labrador, Corner Brook, Newfoundland and Labrador, Canada.

## **Authors**

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## SSAC Status Review Summary

**Date of Status Review:** March 8, 2019

**Common Name**

Alaska Rein Orchid

**Scientific name**

*Platanthera unalascensis* (formerly *Platanthera foetida*)

**Status**

Endangered

**Reasons for Recommendation**

COSEWIC criteria D1

D1. Population estimated to have <250 mature individuals

**Range in Newfoundland and Labrador**

Newfoundland only, 1 known location

**Status History**

In February 2008, the species was assessed as Endangered by the Species Status Advisory Committee. See the document entitled: "The Status of Alaska Rein Orchid (*Platanthera foetida*) in Newfoundland and Labrador" (2008)

[https://www.flr.gov.nl.ca/wildlife/endangeredspecies/ssac/Alaska\\_Rein\\_Orchid\\_SSAC.pdf](https://www.flr.gov.nl.ca/wildlife/endangeredspecies/ssac/Alaska_Rein_Orchid_SSAC.pdf)

[This Web version may be abridged].

On September 27, 2013, the species was listed as Endangered in Newfoundland and Labrador under the Newfoundland and Labrador Endangered Species Act.

Because the species is not rare nationally, it has not been assessed by COSEWIC and is not protected under the federal Species at Risk Act.

## Overview

### Species Description and Significance

#### General Description of the Species

Perennial orchid species of the “rein orchid type”, very slender and white-flowered. Outside of the flowering period it is inconspicuous.

#### Taxonomy and Designatable Units:

*Platanthera unalascensis* (Sprengel) Kurtz

Alaska Rein Orchid  
Alaska Bog Orchid  
Alaskan Orchis  
Alaskan Rein Orchid  
Slender-Spire Orchid  
orchis d’Unalaska  
pipérie d’Unalaska  
pipérie d’unalaska

Family: Orchidaceae (Orchids)

#### Synonyms:

*Habenaria foetida* (Geyer ex Hooker) S. Watson  
*Habenaria schischmareffiana* Chamisso  
*Habenaria unalascensis* (Sprengel) S. Watson  
*Herminium unalascense* (Sprengel) O. Schwarz  
*Montolivaea unalascensis* (Sprengel) Rydberg  
*Piperia unalascensis* (Sprengel) Rydberg  
*Platanthera foetida* Geyer ex Hooker  
*Spiranthes unalascensis* Sprengel

(Synonymy adapted from Brouillet et al. 2017)

In NL, there is one designatable unit.

## Taxonomic Note:

The most recently accepted taxonomic designation for this taxon, based upon Bateman et al. (2009), is *Platanthera unalascensis*. This name is accepted in the VASCAN database (Brouillet et al. 2017).

In the 2008 SSAC Status Report, the taxon was referred to as *Platanthera foetida*.

## Social and Cultural Significance

There are no known published indigenous cultural or economic uses for Alaska Rein Orchid in Newfoundland, nor were any included in Arnason et al.'s 1981 study of North American ethnobotany.

In May of 2018, inquiries were made to the Qalipu and Miawpukek First Nations, which are located in Newfoundland. Representatives of the Qalipu Nation confirmed that they know of no traditional knowledge associated with the species (J. Strickland, personal communication, May 22, 2018; I. Sullivan, personal communication, May 23, 2018). At the time of this writing, representatives of the Miawpukek Nation had not replied.

In a broader sense, like most orchids, *Platanthera unalascensis* is potentially in danger of being collected by horticulturalists and private gardeners.

## Distribution

### Global:

United States of America (South Dakota, Colorado, Wyoming, Montana, New Mexico, Idaho, Utah, Nevada, Washington, Oregon, California, Alaska, Michigan (an outlier population)), Canada (see more detail below)

### National:

British Columbia, Alberta, Ontario, Quebec, Newfoundland and Labrador (Newfoundland only)

### Provincial:

Confirmed for only one location in Newfoundland, near Port-au-Choix.

The Extent of Occurrence is 0.70 km<sup>2</sup>, and the Index of Area of Occupancy is 8 km<sup>2</sup> [confidential locational maps removed from public version of document].

## Habitat

Habitat for Alaska Rein Orchid is generally dry sites in coniferous and mixed evergreen forests, and rarely along coastal bluffs. Found between elevations of 0 and 3000 meters (SSAC 2008).

In Newfoundland the species is found in two broadly described habitat types: [1] larch (*Larix laricina*) shrub swamp and [2] thick mossy areas dominated by water horsetail (*Equisetum fluviatile*). The shrub swamps in question, which also have low black spruce (*Picea mariana*) and balsam fir (*Abies balsamea*), are typically relatively open, with a dense shrub layer, a scattered herb layer, and complete moss cover dominated by the moss species *Pleurozium schreberi*, *Ptilium crista-castrensis* and *Rhytidiadelphus triquetrus*. The thick moss areas have fewer *Larix* and more *Abies*, although in all cases Alaska Rein Orchid favours wet organic soils and partial shade (SSAC 2008).

The bulk of the Newfoundland population occurs in openings near a winter ATV track that runs for about 100 m and is about 25 m wide.

## Biology

The seeds of Alaska Rein Orchid require an association with a mycorrhizal fungus in order to germinate, at which point they will develop into protocorms, which will remain underground for 2-4 years before sending up leafy shoots. As is typical with many orchid species, only a portion of the tubers will send up flowering stems in any given year; for *P. unalascensis* the magnitude of that portion is unknown (SSAC 2008). By way of comparison, a study of the somewhat-related *Piperia yadonii* in California (Doak and Graff, 2001) revealed that the highest recorded portion of leafy plants flowering was 22%, although typically the percentages of tubers sending up leafy shoots and of leafy shoots flowering fluctuate significantly from year to year. That said, in light of two recent taxonomic reevaluations of the *Piperia* clade, which moved *Piperia unalascensis* into the *Platantera* clade (Bateman et al. 2009) while *Piperia yadonii* remained in the *Piperia* clade (George et al. 2009), and in light of the significantly different climatic conditions of the Californian coast and the Northern Peninsula of Newfoundland, such approximations should be considered with caution.

The Newfoundland population has flowers that develop in early August and appear to produce good fruit, but data on overall seed production in Newfoundland is lacking (SSAC 2008).



There are no known parasites or predators for the Newfoundland population.

### **Population Size and Trends**

The 2008 SSAC report describes a very small and scattered population, with a main area of occurrence running for roughly 100 m near an ATV track, estimated to be less than 25 m wide. That population was variably observed to have between 4 and 40 flowering stems (SSAC 2008). In addition to this, a very small outlying site, described as the original discovery site, was not known with precision but was believed to contain fewer than 10 flowering stems. A second outlying site near the main highway was thought to contain fewer than 5 flowering stems (SSAC 2008).

Several more recent searches of the calcareous fens within 20 km of the known site were undertaken between 2009 and 2014. While these searches did not result in the identification of any new populations, they did serve to expand the areas of the known population beyond that of the 2008 report, with new plants identified both north (in 2009 and 2010) and south (in 2010 and 2014) of Highway 430 (Claudia Hanel, pers. comm. 2018).

During the 2006 to 2014 surveys, a total of 169 flowering plants were recorded, 127 north and 42 south of the highway. However, it should be noted that the purpose of 2006 to 2014 surveys was to determine the perimeter and spatial extent of the population, not to obtain an accurate population count. Thus, while the number of flowering plants recorded is higher than those recorded in the 2008 report, an exact population count remains undetermined (Claudia Hanel, pers. comm. 2018). All that can be said is that the number is somewhere in excess of 169 flowering plants.

Survival estimates and projections have not been calculated for this species.

## Threats and Limiting Factors

A threats assessment for *Platanthera unalascensis*, employing the protocol of Salafsky et al. (2008), is presented below:

### 5. Biological Resource Use

#### 5.2 Gathering Terrestrial Plants

Orchids are a common species targeted by collectors. The exact location of the population remains largely unknown to the public, offering it some degree of natural protection, though care must be taken to maintain that status.

## Protection, Status and Ranks

All ranks listed below for *Platanthera unalascensis* are based on “Wild Species 2015: The General Status of Species in Canada” (Canadian Endangered Species Conservation Council 2016).

<b>Category</b>	<b>Rank</b>
Global	
G-rank:	G5, Secure
IUCN:	Not listed
National	
N-rank:	N5, Secure
COSEWIC:	Not assessed
Provincial	
Newfoundland:	S1, critically imperiled
Labrador:	Not present
Adjacent Jurisdictions:	
Quebec S-Rank	S1, critically imperiled

Alaska Rein Orchid is listed as Endangered under the provincial Endangered Species Act. No recovery plan has been formulated, nor has critical habitat been identified. The main population area and the population outliers discovered in 2010 are now included in a Sensitive Wildlife Area, although the population outliers found in 2014 are not (Claudia Hanel, pers. comm. 2018).

A Sensitive Wildlife Area is a non-legal designation used in the provincial Crown Lands Atlas which provides a certain level of protection to species at risk through habitat management mechanisms. An inclusion habitat in an SWA on the provincial Crown Lands Atlas does not afford a species any legal protection, nor does it have any associated legislation (J. Humber, pers. comm., 2018). Rather, it functions as a habitat protection mechanism that affords a degree of protection. During the environmental assessment process, or during a land use referral from the Interdepartmental Land Use Committee (ILUC), an SWA designation will trigger a review by the Wildlife Division for any new land use or development proposals (J. Humber, pers. comm., 2018). This review can lead to the denial of the proposal, conditions being placed on land use activities, and/or development of appropriate mitigation measures (Jessica Humber, pers. comm. 2018).

## Status Review Report

*Platanthera unalascensis*

Alaska Rein Orchid

Orchis d'Unalaska

Range of occurrence in NL (NL/ LB): Newfoundland only, one location near Port-au-Choix

### Existing SSAC Assessment:

Status category:

XT     E     T     SC

Date of last assessment: February 20, 2008

Reason for designation at last assessment:

- Only one known population
- Number of mature individuals <55
- Extremely restricted, extent of occurrence and area of occupancy 0.1 km<sup>2</sup>
- Desirable species, hence poaching is a severe threat
- Rescue effect unlikely

Criteria applied at last assessment:

- Qualified as Endangered under the SSAC/COSEWIC criteria D1: Number of mature individuals <250.

### SSAC Recommendation:

- No change in status and criteria  
 No change in status, new criteria

**Evidence supporting this Status Review:**

<b>Wildlife species:</b>	
Change in eligibility, taxonomy or designatable units:  Explanation: Taxonomy has been changed from <i>Platanthera foetida</i> to <i>Platanthera unalascensis</i> (Bateman et al. 2009).	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>Range:</b>	
Change in Extent of Occurrence (EO):  Explanation: While the EO number produced for this Status Review is virtually the same as the number given in the 2008 Status Report, a small additional area of habitat was added, on the south side of the highway, as the result of more recent studies in 2009 to 2014. The similarity of the old and new numbers seems to be the result of slightly differing mapping technique.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/>
Change in Index of Area of Occupancy (IAO):  Explanation: More properly “n/a”. “AO”, not “IAO”, was used in the 2006 report.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/>
Change in no. of known or inferred current locations*  Explanation: [*] Use the IUCN definition of “location”	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unk <input type="checkbox"/>
Significant new survey information:  Explanation: Surveys between the years 2009 and 2014 have revealed that both the EO and the overall population are somewhat larger than previously thought.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/>
<b>Population Information:</b>	
Change in number of mature individuals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unk <input type="checkbox"/>
Change in population trend:	Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input checked="" type="checkbox"/>
Change in severity of population fragmentation:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unk <input type="checkbox"/>
Change in trend in area and/or quality of habitat:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unk <input type="checkbox"/>

Significant new survey information:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>Threats:</b>	
Change in nature and/or severity of threats:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unk <input type="checkbox"/>
<b>Protection:</b>	
Change in effective protection:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Explanation: While the species is now listed as Endangered under the provincial Endangered Species Act, no recovery plan has been formulated, nor has critical habitat been identified.  The main portion of the population is now in a Sensitive Wildlife Area (see "Protection, Status, and Ranks" for description of SWAs)	
<b>Rescue Effect:</b>	
Change in evidence of rescue effect:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>Quantitative Analysis:</b>	
Probabilities of extirpation are not available.	
Change in estimated probability of extirpation:	Yes <input type="checkbox"/> No <input type="checkbox"/> Unk <input checked="" type="checkbox"/>

**Summary and Additional Considerations:**  
Further surveys needed.

**Acknowledgements and Authorities Contacted:**

Adam Durocher - Data Manager, Atlantic Canada Conservation Data Centre

Claudia Hanel – Ecosystem Management Ecologist – Botanist, Forestry and Wildlife Research Division, Government of Newfoundland and Labrador

**Author of Status Review:**

Elisabeth Belanzaran

## Technical Summary

*Platanthera unalascensis*

Alaska Rein Orchid

Orchis d'Unalaska

Range of occurrence in the province: Newfoundland only; one small population

### Demographic Information

1. Generation time (usually average age of parents in the population)	2-4 yrs
2. Is there an [observed, inferred, or projected] continuing decline in number of mature individuals?	No
3. Estimated percent of continuing decline in total number of mature individuals within [5 years or 2 generations]	Unknown
4. [Observed, estimated, inferred, or suspected] percent [reduction or increase] in total number of mature individuals over the last [10 years, or 3 generations].	Unknown
5. [Projected or suspected] percent [reduction or increase] in total number of mature individuals over the next [10 years, or 3 generations].	Unknown
6. [Observed, estimated, inferred, or suspected] percent [reduction or increase] in total number of mature individuals over any [10 years, or 3 generations] period, over a time period including both the past and the future.	Unknown
7. Are the causes of the decline a. clearly reversible and b. understood and c. ceased?	a. n/a b. n/a c. n/a
8. Are there extreme fluctuations in number of mature individuals?	No

### Extent and Occupancy Information

9. Estimated extent of occurrence	0.70 km <sup>2</sup>
10. Index of area of occupancy (IAO) (Always report 2x2 grid value).	8 km <sup>2</sup>



11. Is the population “severely fragmented” i.e., >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 (b) separated from other habitat patches by a large distance?	No
12. Number of locations* (use plausible range to reflect uncertainty)	1
13. Is there an [observed, inferred, or projected] continuing decline in extent of occurrence?	No
14. Is there an [observed, inferred, or projected] continuing decline in index of area of occupancy?	No
15. Is there an [observed, inferred, or projected] continuing decline in number of subpopulations?	No
16. Is there an [observed, inferred, or projected] continuing decline in number of locations*?	No
17. Is there an [observed, inferred, or projected] continuing decline in [area, extent and/or quality] of habitat?	No
18. Are there extreme fluctuations in number of subpopulations?	No
19. Are there extreme fluctuations in number of locations*?	No
20. Are there extreme fluctuations in extent of occurrence?	No
21. Are there extreme fluctuations in index of area of occupancy?	No

### Number of Mature Individuals (in each subpopulation)

22. Subpopulation (give plausible ranges)	N Mature Individuals
Port-au-Choix area	169
Total	169 minimum

### Quantitative Analysis

\* See Definitions and Abbreviations on [COSEWIC website](#) and [IUCN 2010](#) for more information on this term.

23. Probability of extinction in the wild is at least [20% within 20 years or 5 generations, or 10% within 100 years].	Unknown
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**Threats (actual or imminent, to populations or habitats)**

24. A threats assessment calculation has not been performed for <i>P. unalascensis</i> .  Gathering terrestrial plants-intentional use: <i>Platanthera unalascensis</i> is potentially in danger of being collected by horticulturalists and private gardeners (especially if public reports point to where they are located).
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**Rescue Effect (immigration from outside Newfoundland)**

25. Status of outside population(s) most likely to provide immigrants to Newfoundland?	Nearest populations (in Quebec) classified as S1-endangered (CESCC 2016)
26. Is immigration known or possible?	Unlikely; nearest population is in Quebec (S1)
27. Would immigrants be adapted to survive in Newfoundland?	Unknown
28. Is there sufficient habitat for immigrants in Newfoundland?	Unknown; an association with a mycorrhizal fungus is required
29. Is rescue from outside populations likely?	No

**Data Sensitive Species**

30. Is this a data sensitive species?  Yes. Like most orchids, it is potentially in danger of being collected by horticulturalists and private gardeners. Sites where this species occurs in Newfoundland are easily accessible by the public. This species' rarity in eastern North America places it at particular risk.
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## Current Status

### 31. Status History (COSEWIC or SSAC)

In February 2008, the species was assessed as Endangered by the Species Status Advisory Committee, in the document entitled: "The Status of Alaska Rein Orchid (*Platanthera foetida*) in Newfoundland and Labrador"

In September 27, 2013, the species was listed as Endangered in Newfoundland and Labrador under the Newfoundland and Labrador Endangered Species Act.

Because the species is not rare nationally, it has not been assessed by COSEWIC and is not protected under the federal Species at Risk Act.

### 32. Criteria (old):

D1. Number of mature individuals <250

### 33. Year Assessed: 2006

### 34. Reasons for Designation:

Qualifies as "Endangered" under the SSAC/COSEWIC criteria D1:

- Only one known population
- Number of mature individuals < 250 (estimated at 55 individuals)
- Extremely restricted, extent of occurrence and [actual] area of occupancy < 0.1 km<sup>2</sup>
- Desirable species, hence poaching is a severe threat
- Rescue effect unlikely

35. Author of Technical Summary: Elisabeth Belanzaran

36. Additional Sources of Information: n/a

## Recommended Status and Reasons for Designation

37. Recommended Status: <b>Endangered</b>	38. Alpha-numeric Code: D1
39. Reasons for Designation:  Qualifies as Endangered under COSEWIC criteria D1  Population estimated to have <250 mature individuals.  Since the initial 2006 assessment as Endangered, additional individuals have been discovered. At least 169 mature individuals have been counted at known sites. While a complete population count has not been performed in any given year, this number is considered unlikely to exceed 250 individuals. This small and restricted population is easily accessible and therefore under continuing threat of collection by orchid enthusiasts. Rescue effect is highly unlikely. No new threats or habitat degradation have been noted. A status of Endangered is recommended.	

### Applicability of Criteria

40. Criterion D1:  Population estimated to have <250 mature individuals.
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### **Personal Communications**

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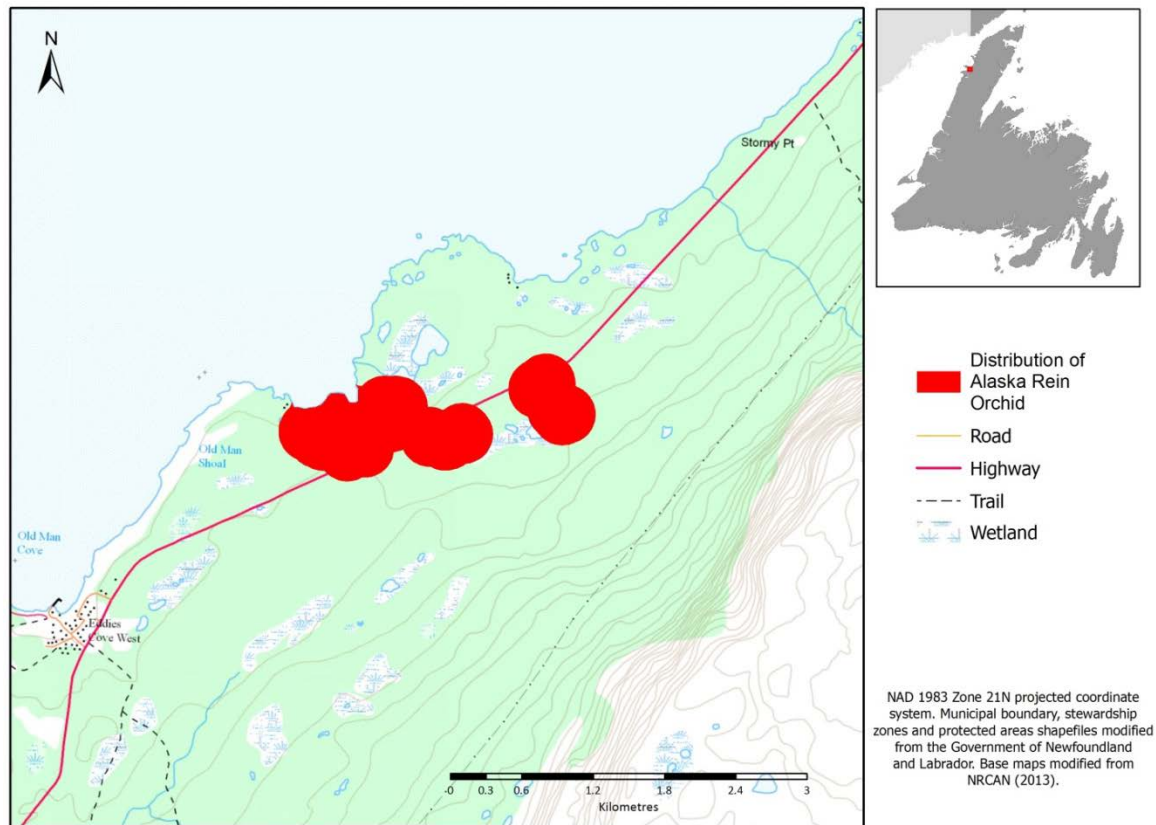
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Jonathan Strickland – Director of Natural Resources, Qalipu First Nation

Ian Sullivan – GIS Technician, Department of Natural Resources, Qalipu First Nation

## Figures



**Figure 1:** Location and distribution of Alaska Rein Orchid in its only known location (*P. unalascensis*) in Newfoundland, near Port-au-Choix. (Map created by Adam Durocher)