



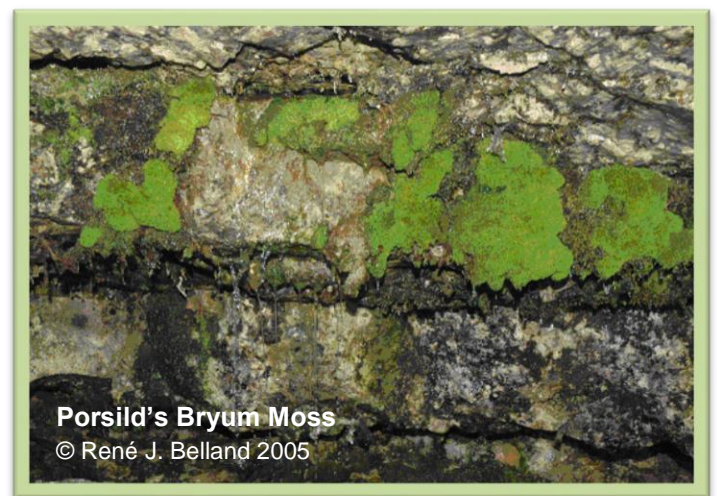
The *Species at Risk Act* and You

# PROPOSED FINAL PORSILD'S BRYUM ACTION PLAN SUMMARY FOR CANADA

## Summary

This is a summary of the information provided in the Proposed Final Action Plan for the Porsild's Bryum (*Mielichhoferia macrocarpa*) moss species. In November of 2003 Porsild's Bryum was assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as Threatened. In 2011, in response to the COSEWIC assessment, Porsild's Bryum was added to Schedule 1 of the *Species at Risk Act* (SARA), and a recovery strategy was developed and posted in December 2017. The Proposed Final Action Plan complements the recovery strategy and will be implemented across the species distribution in Alberta, British Columbia, Newfoundland and Labrador, and Nunavut. While general, this summary will aim to highlight pertinent information specific to Porsild's Bryum in Nunavut.

The action plan outlines the projects and activities necessary to meet the population and distribution goals and objectives identified in the recovery strategy. The document outlines proposed measures to protect critical habitat, as well as steps for implementing the recovery strategy, and evaluates the socio-economic costs of the action



plan and implementation benefits. The action plan should be considered in conjunction with the *Recovery Strategy for the Porsild's Bryum in Canada* (Environment and Climate Change Canada 2016).

## Species Information

### *Porsild's Bryum species description*

- Small, brilliant green moss.
- Located in shaded calcareous cliffs or rock outcrops with continuous or intermittent seepage.
- Slow regeneration and limited dispersal ability.
- Narrow substrate requirements makes recovering from threats, such as drought, temperature

extremes, recreational activities and unpredictable events, difficult.

### Where is Porsild's Bryum found?

- Found throughout the north-western hemisphere.
- 17 known populations in Canada:
  - 1 in British Columbia
  - 6 in Alberta
  - 7 in Newfoundland and Labrador
  - 3 in Nunavut

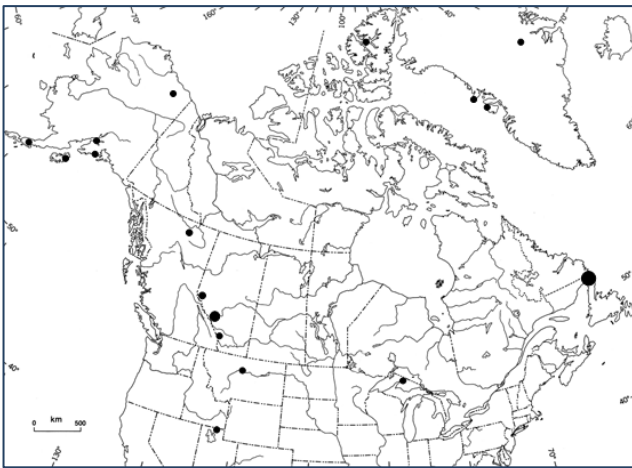


Figure 1. The distribution and occurrence of Porsild's Bryum in the north-western hemisphere. The three dots in Alberta cover 6 populations, the one dot in British Columbia covers 1 population, the Newfoundland and Labrador dot covers 7 populations, and the dot in Nunavut's high Arctic includes 3 populations.

## Recovery Actions

In addition to the national recovery strategy, provincial recovery documents for Porsild's Bryum have been developed in Alberta and Newfoundland/Labrador. These documents summarize provincial-specific distribution and habitat patterns, threats, and recovery initiatives. The national recovery strategy identifies a broad population and distribution (P&D) objective for Porsild's Bryum across Canada:

*“To maintain or increase the number of colonies, and sub-populations for all known extant populations of Porsild's Bryum, while also maintaining or increasing the distribution of colonies and sub-populations within each population, and, where feasible, to reestablish the species to locations where it has been extirpated and previously known to exist.”*

To achieve the national P&D objectives, recovery measures are required to be implemented within a given timeframe. To date, only one recovery measure has been completed: *critical habitat for known populations on federal lands is legally protected.*

The action plan outlines all ongoing recovery measures, which are related to five broad strategies:

- 1. Inventory and monitoring**
- 2. Research**
- 3. Outreach / Stewardship**
- 4. Habitat management**
- 5. Reintroduction and/or population augmentation**

Each is summarized in depth in the action plan document and is assigned a specific timeline. Below are examples of the ongoing recovery measures necessary to meet the broad strategies based on priority ranking (high, medium or low).

*For full timeline see action plan document.*

**High priority:**

- Work with provinces and landowners to secure effective protection of critical habitat for known populations on non-federal land by 2020.
- Further identify limiting factors and threats by 2021.
- Develop and implement a long-term monitoring program by 2021.
- Conduct seasonal field surveys to determine the full extent of the species population size and distribution.
- Survey known sites to identify threats and their impacts.
- Develop and implement a research plan to determine the biological and habitat needs of the species.

**Medium priority:**

- Encourage the involvement of all stakeholders in implementation efforts, including monitoring, by 2021.
- Develop a re-introduction protocol and determine feasibility by 2022.
- Develop educational material and public outreach to increase public understanding of threats and promote stewardship.
- Work with stakeholders to minimize known threats and collaborate with industry partners to minimize effects of industrial activities.
- Install infrastructure to protect subpopulations vulnerable to recreational activities.
- Restore habitat at damaged locations and reintroduce plants as required.
- Monitor effectiveness of reintroductions as required.

**Low priority:**

- Create a habitat model to predict species presence.
- Develop minimum viable population estimates by 2028.

**Protecting Critical Habitat**

To the extent possible, critical habitat and activities likely to result in destruction of critical habitat are described in the national recovery strategy. No additional critical habitat is identified in the action plan. The action plan identifies the proposed measures to protect critical habitat on federal and non-federal lands.

**Protection on federal lands**

In Nunavut, critical habitat of Porsild's Bryum is identified in Quttinirpaaq National Park and legally protected under the *Species at Risk Act* as well as the *Canada National Park Act*. The Parks Canada agency may also prevent destruction of critical habitat by posting notices, restricting access to the area, and educating visitors.

**Protection on non-federal lands**

If the Minister is of the opinion that the laws of the province and territory do not effectively protect the critical habitat of Porsild's Bryum on non-federal lands, the Minister must make a recommendation to the Governor in Council that an order be put in place to prevent the destruction of critical habitat.

The implementation of conservation measures is an important complementary strategy for preserving the species critical habitat. Environment and Climate

Change Canada will work with provincial and territories governments, non-governmental organizations, and individuals to protect critical habitat on non-federal lands, as well as facilitate the implementation of conservation measures.

## Socio-Economic Evaluation

The socio-economic evaluation presented in the action plan addresses only the cumulative socio-economic costs of implementing the action plan from a national perspective, as well as the social and environmental benefits that would occur if the action plan were implemented in its entirety. The intent of the socio-economic evaluation is to inform the public and to guide decision making on implementation of the action plan by partners.

The document outlines the various legislative, regulatory and management tools currently in place (e.g. *Canada National Parks Act*, provincial recovery strategies, etc.), as well as the affected demographic, the costs and benefits of implementation, and the distributional impacts associated with the action plan, which are summarized below.

### *Who would be affected?*

There are few communities or individuals that would be affected by the implementation of the measures identified in the action plan for Porsild's Bryum. With the exception of populations in Newfoundland and Labrador, most populations of Porsild's Bryum occur within federal and provincial protected areas and parks. In Nunavut, for example, all populations are found within the Quttinirpaaq National Park. The

park is within the Nunavut Land Claims Agreement and is an important area to Inuit of Grise Fiord and Resolute Bay. The implementation of this action plan is expected to have little to no effects on these communities.

### *Socio-economic costs*

The costs associated with implementation are financial and social. Both are expected to be minimal.

#### Financial costs:

- Short term (2019 to 2023) costs are expected to be minimal at the national and regional (territorial and provincial) scale. Nationally, direct and indirect costs of implementing the recovery measures are estimated at \$0 to \$5 million.
- Long-term (2023 onwards) costs are expected to be minimal.

#### Social costs:

There are few known populations and the majority are found in protected areas. Given the lack of human-use associated with the species the social costs are projected to be low.

### *Socio-economic benefits*

An opinion poll found that three quarters of surveyed Canadians feel that preserving natural areas and a diverse plant and animal life is important. The implementation of the action plan would:

- Help with the recovery of the species.

- Promote a healthy ecosystem by supporting and enhancing biodiversity.
- Increase eco-tourism activity in near-by parks.

### **Distributional Impacts**

Porsild's Bryum occurs on provincial, federal, and private properties, and the majority of sites are within protected areas. Private landowners are not expected to absorb the direct incremental costs for the species' recovery. Any indirect incremental costs resulting from the implementation of recovery measures will be shared. Should additional populations of Porsild's Bryum be discovered on private land through activities identified in this action plan, the distributional impacts will be re-assessed.



### **Measuring Progress**

In addition to the five performance indicators presented in the recovery strategy, progress will be monitored through:

1. Reporting on the implementation of the action plan by assessing progress towards implementing the broad strategies.
2. Reporting on the ecological and socio-economic impacts of the action plan by assessing the results of monitoring the recovery of the species and its long-term viability.

For more information, please contact us directly at:

Canadian Wildlife Service  
5019 52<sup>nd</sup> Street  
PO Box 2310  
Yellowknife, NT  
X1A 2P7  
[ec.samt-lepnt.ec@canada.ca](mailto:ec.samt-lepnt.ec@canada.ca)

You can also visit the following websites for more information:  
SARA Public Registry ([www.sararegistry.gc.ca](http://www.sararegistry.gc.ca))

Cover photos:

Ross' Gull © Environment Canada, photo: Mark Mallory  
Baikal Sedge © Environment Canada, photo: Syd Cannings  
Peary Caribou © Environment Canada, photo: Charles Francis

© Her Majesty the Queen in Right of Canada represented by the  
Minister of the Environment and Climate Change, 2019