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Action Plan Series

Action Plan for the Porsild's Bryum (*Mielichhoferia macrocarpa*) in Canada

Porsild's Bryum

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For copies of the action plan, or for additional information on species at risk, including the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Status Reports, residence descriptions, recovery strategies, and other related recovery documents, please visit the Species at Risk (SAR) Public Registry[1].

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[1] www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html

Preface

The federal, provincial, and territorial government signatories under the Accord for the Protection of Species at Risk (1996)[2] agreed to establish complementary legislation and programs that provide for effective protection of species at risk throughout Canada. Under the *Species at Risk Act* (S.C. 2002, c.29) (SARA), the federal competent ministers are responsible for the preparation of action plans for species listed as Extirpated, Endangered, and Threatened for which recovery has been deemed feasible. They are also required to report on progress within five years after the publication of the final document on the SAR Public Registry.

Under SARA, one or more action plan(s) provides the detailed recovery planning that supports the strategic direction set out in the recovery strategy for the species. The plan outlines what needs to be done to achieve the population and distribution objectives (previously referred to as recovery goals and objectives) identified in the recovery strategy, including the measures to be taken to address the threats and monitor the recovery of the species, as well as the proposed measures to protect critical habitat that has been identified for the species. The action plan also includes an evaluation of the socio-economic costs of the action plan and the benefits to be derived from its implementation. The action plan is considered one in a series of documents that are linked and should be taken into consideration together. Those being the COSEWIC status report, the recovery strategy, and one or more action plans.

The Minister of Environment and Climate Change and Minister responsible for theParks Canada Agency is the competent minister under SARA for the Porsild's Bryum and has prepared this action plan to implement the recovery strategy, as per section 47 of SARA. To the extent possible, it has been prepared in cooperation with the provinces of British Columbia, Alberta, and Newfoundland and Labrador and Nunavut Territory, as per section 48(1) of SARA.

Success in the recovery of this species depends on the commitment and cooperation of many different constituencies that will be involved in implementing the directions and actions set out in this action plan and will not be achieved by Environment and Climate Change Canada and the Parks Canada Agency, or any other jurisdiction alone. All Canadians are invited to join in supporting and implementing this action plan for the benefit of the Porsild's Bryum and Canadian society as a whole.

Implementation of this action plan is subject to appropriations, priorities, and budgetary constraints of the participating jurisdictions and organizations.

The recovery strategy sets the strategic direction to arrest or reverse the decline of the species, including identification of critical habitat to the extent possible. It provides all

[2] www.canada.ca/en/environment-climate-change/services/species-risk-act-accord-funding.html#2

Canadians with information to help take action on species conservation. When critical habitat is identified, either in a recovery strategy or an action plan, SARA requires that critical habitat then be protected.

In the case of critical habitat identified for terrestrial species including migratory birds SARA requires that critical habitat identified in a federally protected area[3] be described in the *Canada Gazette* within 90 days after the recovery strategy or action plan that identified the critical habitat is included in the public registry. A prohibition against destruction of critical habitat under ss. 58(1) will apply 90 days after the description of the critical habitat is published in the *Canada Gazette*.

For critical habitat located on other federal lands, the competent minister must either make a statement on existing legal protection or make an order so that the prohibition against destruction of critical habitat applies.

If the critical habitat for a migratory bird is not within a federal protected area and is not on federal land, within the exclusive economic zone or on the continental shelf of Canada, the prohibition against destruction can only apply to those portions of the critical habitat that are habitat to which the *Migratory Birds Convention Act, 1994* applies as per SARA ss. 58(5.1) and ss. 58(5.2).

For any part of critical habitat located on non-federal lands, if the competent minister forms the opinion that any portion of critical habitat is not protected by provisions in or measures under SARA or other Acts of Parliament, or the laws of the province or territory, SARA requires that the Minister recommend that the Governor in Council make an order to prohibit destruction of critical habitat. The discretion to protect critical habitat on non-federal lands that is not otherwise protected rests with the Governor in Council.

[3] These federally protected areas are: a national park of Canada named and described in Schedule 1 to the *Canada National Parks Act*, The Rouge National Park established by the *Rouge National Urban Park Act*, a marine protected area under the *Oceans Act*, a migratory bird sanctuary under the *Migratory Birds Convention Act, 1994* or a national wildlife area under the *Canada Wildlife Act* see ss. 58(2) of SARA.

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Executive Summary

Porsild's Bryum (*Mielichhoferia macrocarpa*) is a small brilliant green moss, often associated with waterfalls and calcareous rock and known to occur in at least 17 populations throughout Canada. It was listed as Threatened on the *Species at Risk Act* (SARA) Schedule 1 in 2011.

This action plan complements the *Recovery Strategy for the Porsild's Bryum in Canada* (Environment and Climate Change Canada 2016) and will be implemented in British Columbia, Alberta, Nunavut and Newfoundland. The proposed recovery measures in this action plan address the objective set out in the recovery strategy for the entire population and distribution of Porsild's Bryum in Canada.

No additional critical habitat is identified in this action plan, but it is expected that as the Schedule of Studies is completed, additional critical habitat may be identified and presented in an updated recovery strategy or action plan(s). Critical habitat identified in the species' recovery strategy is located on non-federal land and a federal protected area and proposed measures to protect this critical habitat are presented in section 1.4 of this action plan.

The recovery measures included in this action plan are required to implement the recommended recovery approaches outlined in the recovery strategy. Recovery measures proposed for the Porsild's Bryum are related to five broad strategies: (1) inventory and monitoring, (2) research, (3) outreach / stewardship, (4) habitat management, and (5) reintroduction and/or population augmentation.

The socio-economic evaluation was completed and it was determined that the direct and indirect costs of implementing this action plan are anticipated to be low over the short term (2019-2023) and the long term (2023 onwards). The implementation will benefit other species, habitat and ecosystems.

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1. Recovery Actions

1.1 Context and Scope of the Action Plan

The taxonomic designation of Porsild's Bryum has changed over time. At the time of the 2003 COSEWIC assessment, it was considered to be in the genus Mielichhoferia (*Mielichhoferia macrocarpa* (Hooker) Bruch & Schimper ex Jaeger & Sauerbeck). It was then placed in the genus Bryum (*Bryum porsildii* (I Hagen) Cox & Hedderson) and more recently in the genus Haplodontium (*Haplodontium macrocarpum* (Hooker) Spence). The currently accepted name of the species is *Haplodontium macrocarpum*. These names are synonomous and all refer to the Porsild's Bryum.

Porsild's Bryum was assessed as Threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 2003, then subsequently listed as such on Schedule 1 of the *Species at Risk Act* (SARA) in 2011 using the name *Mielichhoferia macrocarpa*. As such, this is the name used for the purposes of this action plan.

Porsild's Bryum is a small brilliant green moss associated with shaded calcareous cliffs or rock outcrops and continuous or intermittent seepage (COSEWIC 2003; Environment and Climate Change Canada 2016). The distribution extent has changed little since it was assessed by COSEWIC in 2003. It is known to occur in at least 17 populations in Canada: 1 in British Columbia, 6 in Alberta, 7 in Newfoundland and Labrador, and 3 in Nunavut (Environment and Climate Change Canada 2016). There is limited information available to determine reliable trends in the population though loss of individuals and colonies, and a decline in habitat quality, has been noted at some locations (COSEWIC 2003). Porsild's Bryum has slow regeneration, limited dispersal ability, and narrow substrate requirements that likely make recovering from threats such as drought, temperature extremes, recreational activities, or stochastic events difficult (COSEWIC 2003; Belland and Limestone Barrens Species at Risk Recovery Team 2006).

The recovery strategy identifies the following population and distribution objective for Porsild's Bryum:

> "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."
> (Environment and Climate Change Canada 2016)

This action plan addresses all populations of Porsild's Bryum in Canada and should be considered along with the *Recovery Strategy for Porsild's Bryum in Canada* (Environment and Climate Change Canada 2016). The recovery strategy provides more details on the strategic direction and approaches for recovery of Porsild's Bryum, critical habitat information, and background information on the species and its threats.

Provincial recovery documents for Porsild's Bryum have been developed in Alberta (Alberta Porsild's Bryum Recovery Team 2010) and Newfoundland and Labrador (Belland and Limestone Barrens Species at Risk Recovery Team 2006). These documents summarize provincial-specific distribution and habitat patterns, threats, recovery initiatives, etc.

1.2 Measures to be Taken and Implementation Schedule

Table 1. Implementation Schedule

#	Recovery Measures	Priority[a]	Threats or objectives addressed	Timeline
Broad Strategy: Inventory and Monitoring				
1	Conduct field surveys to locate Porsild's Bryum populations and subpopulations, both within and adjacent to the species' known range and in other potential locations deemed to have suitable habitat, to determine the species complete population size and distribution. Alberta Porsild's Bryum Recovery Team (2010), Belland and Limestone Barrens Species at Risk Recovery Team (2006), and Environment and Climate Change Canada (2016) identify areas of particular interest.	High	Knowledge gaps	Ongoing to 2023
2	Survey all sites to determine baseline population sizes, and identify threats and their impacts.	High	Knowledge gaps; All threats	Ongoing to 2021
3	Develop and implement a long-term monitoring program which examines population sizes and dynamics, colony numbers, threats, habitat trends (e.g., air temperature, relative humidity, and water quality), and microclimate trends at selected sites throughout the species' range.	High	Knowledge gaps; All threats	By 2021, then regularly (frequency dependent on location)
Broad Strategy: Research				
4	Develop and implement a research plan to determine the detailed biological needs of the species (e.g., physiological tolerances to light and temperature, water chemistry and substrate requirements, and resilience to disturbance), and habitat conditions.	High	Knowledge gaps; All threats	Ongoing to 2021
5	Further identify limiting factors and natural threats not already presented in the *Recovery Strategy for the Porsild's Bryum in Canada* (Environment and Climate Change Canada 2016).	High	Knowledge gaps	By 2021

6	Create a habitat model to predict species presence at potential sites.	Low	Knowledge gaps	Ongoing to 2022
7	Develop minimum viable population estimates.	Low	Knowledge gaps	By 2028
Broad Strategy: Outreach / Stewardship				
8	Develop educational material (e.g., brochures, displays at interpretative centres, and signage within protected areas) and other outreach initiatives to increase public understanding of threats to the species and promote stewardship.	Medium	Recreational activities	Ongoing to 2021
9	Work with various levels of government, stakeholders, and the general public to identify solutions for minimizing known threats (e.g., preventing campfires at Whitehorse Creek, Alberta, or preventing recreational use of cliffs at Ribbon Creek, Alberta).	Medium	Recreational activities; Industrial activity	Ongoing to 2021
10	Where appropriate, collaborate with industrial partners to minimize the effects of industrial activities (e.g., road dust in Mountain Park, Alberta). Avenues for collaboration include (but are not limited to) regular meetings / discussions, the development of beneficial management practices, and reviewing work procedures.	Medium	Industrial activity	Ongoing to 2021
11	Encourage the involvement of the public and industrial stakeholders in implementation efforts, including monitoring (where feasible) (e.g., through *Adopt-a-Plant Alberta* program).	Medium	Recreational activities; Industrial activity; Knowledge gaps	By 2021
Broad Strategy: Habitat Management				
12	Ensure critical habitat for extant populations on federal lands is legally protected.	High	Recreational activities; Industrial activity	Completed)
13	Work with provinces and landowners to secure effective protection of critical habitat for extant populations on non-federal lands.	High	Recreational activities; Industrial activity	By 2020
14	Install and maintain fencing, signage, etc. in strategic locations to conserve subpopulations vulnerable to recreational activities	Medium	Recreational activities	Ongoing to 2021, then as required

	(e.g., Ribbon Creek Lower and Upper, Whitehorse Creek 2, and Whitehorse Creek Boulder), if deemed necessary for population survival and recovery.			
15	When feasible, restore habitat at damaged locations. The necessity, extent and type of restoration will be site specific.	Medium	Recreational activities; Industrial activity; Stochastic events	As required
Broad Strategy: Reintroduction and Population Augmentation				
16	Develop reintroduction protocols.	Medium	All threats	By 2022
17	Determine the feasibility of reintroduction and population augmentation and identify priority sites for implementation.	Medium	All threats	By 2023
18	Re-introduce plants to restored habitat and/or implement population augmentation, if deemed feasible.	Medium	All threats	As required
19	Monitor effectiveness of reintroductions.	Medium	All threats	For at least 5-10 years post reintroduction

[a] "Priority" reflects the degree to which the measure contributes directly to the recovery of the species or is an essential precursor to a measure that contributes to the recovery of the species. High priority measures are considered those most likely to have an immediate and/or direct influence on attaining the population and distribution objectives for the species. Medium priority measures may have a less immediate or less direct influence on reaching the population and distribution objectives, but are still important for the recovery of the population. Low priority recovery measures will likely have an indirect or gradual influence on reaching the population and distribution objectives, but are considered important contributions to the knowledge base and/or public involvement and acceptance of the species.

1.3 Critical Habitat

1.3.1 Identification of the Species' Critical Habitat

Critical habitat of Porsild's Bryum was partially identified in section 7 and Appendix A of the federal recovery strategy (Environment and Climate Change Canada 2016). The recovery strategy also contains details about the identified critical habitat including its geospatial extent and biophysical attributes (section 7.1) (Environment and Climate Change Canada 2016). Please refer to that document for details.

Given the best available information, no additional critical habitat for Porsild's Bryum can be identified in this action plan. Critical habitat will be updated in an amended recovery strategy or additional action plan once the Schedule of Studies is completed. Refer to section 7.2 of the federal recovery strategy for a Schedule of Studies necessary to complete critical habitat identification (Environment and Climate Change Canada 2016).

1.3.2 Activities Likely to Result in Destruction of Critical Habitat

Examples of activities likely to result in the destruction of critical habitat may be found in section 7.3 of the federal recovery strategy (Environment and Climate Change Canada 2016).

1.4 Proposed Measures to Protect Critical Habitat

1.4.1 Proposed protection measures on Federal Lands

Critical habitat of Porsild's Bryum in Nunavut is identified within Quttinirpaaq National Park of Canada and has been legally protected by the process outlined in subsection 58(2) of SARA, as well as by the *Canada National Parks Act*. In addition, the Parks Canada Agency may use existing management tools to prevent destruction of critical habitat, such as posting notices, restricting access to the area, and educating visitors.

1.4.2 Proposed protection measures on Non-federal Lands

With regard to critical habitat on non-federal lands, Environment and Climate Change Canada will work with the Governments of British Columbia, Alberta, Nunavut, and Newfoundland and Labrador to report on critical habitat protection.

SARA requires that if, after consulting with the appropriate provincial or territorial minister, the Minister is of the opinion that the laws of the province or territory do not effectively protect the critical habitat of the species, then the Minister must make a recommendation to 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 this species' critical habitat. Environment and Climate Change Canada

will work with the applicable provinces, non-governmental organizations, and individuals to facilitate the implementation of conservation measures.

2. Evaluation of Socio-Economic Costs and of Benefits

The *Species At Risk Act* requires that an action plan include an evaluation of the socio-economic costs of the action plan and the benefits to be derived from its implementation (SARA 49(1)(e), 2002). This evaluation addresses only the incremental socio-economic costs of implementing this 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, recognizing that not all aspects of its implementation are under the jurisdiction of the federal government. It does not address cumulative costs of species recovery in general nor does it attempt a cost-benefit analysis. Its intent is to inform the public and to guide decision making on implementation of the action plan by partners.

The protection and recovery of species at risk can result in both benefits and costs. The Act recognizes that "*wildlife, in all its forms, has value in and of itself and is valued by Canadians for aesthetic, cultural, spiritual, recreational, educational, historical, economic, medical, ecological and scientific reasons*" (SARA 2002). Self-sustaining and healthy ecosystems with their various elements in place, including species at risk, contribute positively to the livelihoods and the quality of life of all Canadians. A review of the literature confirms that Canadians value the preservation and conservation of species in and of themselves. Actions taken to preserve a species, such as habitat protection and restoration, are also valued. In addition, the more an action contributes to the recovery of a species, the higher the value the public places on such actions (Loomis and White 1996; Fisheries and Oceans Canada 2008). Furthermore, the conservation of species at risk is an important component of the Government of Canada's commitment to conserving biological diversity under the *International Convention on Biological Diversity*. The Government of Canada has also made a commitment to protect and recover species at risk through the Accord for the Protection of Species at Risk. The specific costs and benefits associated with this action plan are described below.

2.1 Policy Baseline

The provinces of British Columbia, Alberta, and Newfoundland and Labrador, the Territory of Nunavut, and the federal government have access to many legislative, regulatory, and management tools for the conservation and stewardship of Porsild's Bryum (e.g., endangered species legislation, protected areas legislation, and environmental assessments). For example, Porsild's Bryum is listed as Endangered under Alberta's *Wildlife Act* and Threatened under Newfoundland and Labrador's *Endangered Species Act*. In addition, the populations in Nunavut occur within a national park and are subject to the *Canada National Parks Act* while the population in British Columbia occurs within a provincial park subject to British Columbia's *Park Act*.

Both Alberta and Newfoundland and Labrador have published recovery strategies for the species and recovery activities have been initiated in Alberta (AESRD 2013). For example, microclimatic sensors were installed at the Mountain Park population in Alberta (2011-12) to document key temperature and relative humidity conditions during the growing season. In addition, baseline site characteristics, including water and rock chemistry data, was obtained from several of the Alberta populations (AESRD 2013). A sign was erected at one site in Alberta near a popular campground by to inform campers about several plant species present, including Porsild's Bryum, and the importance of protecting them. Nationally, field surveys have recently (ca. 2015) been conducted at several of the populations of Porsild's Bryum in Canada in support of an updated COSEWIC status report.

Industrial policies and work procedures already in place may also contribute to the implementation of this action plan and thus the conservation of Porsild's Bryum. For example, dust levels along a haul road servicing a coal mine site adjacent to Mountain Park, Alberta, have been monitored to inform potential mitigative measures to reduce any impact to the species (Alberta Government 2014).

Additionally, many recovery measures can be carried out by federal or provincial species at risk funding programs, contributions by recovery biologists, or research by university partners.

2.2 Socio-economic Profile and Baseline

The measures outlined in this action plan relate primarily to inventory and monitoring, research, outreach and education and habitat management. Populations of Porsild's Bryum occur primarily within federal and provincial protected areas and parks. 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.

Within British Columbia, Porsild's Bryum is only known to occur within Muncho Lake Provincial Park and in Nunavut all populations are currently known from Quttinirpaaq National Park. Quttinirpaaq National Park is within the Nunavut Land Claims Agreement and is an area particularly important to Inuit from Grise Fiord and Resolute Bay.

However, the implementation of this action plan (i.e., inventory and monitoring, research, outreach and education and habitat management) is expected to have little to no effects on these communities.

Although Porsild's Bryum is found outside of federal or provincial protected areas in Newfoundland and Labrador, a non-governmental organization is actively involved with conservation and stewardship initiatives in the nearby limestone barrens. This recovery and conservation partnership has been ongoing in the area for several years in an effort to restore habitat and promote the long term protection and conservation of Porsild's Bryum and other species at risk in the area.

In Alberta, most of the recovery measures for the species will take place in various provincial protected areas with varying levels of protection. Potential affected stakeholders include transmission and telecommunication companies with dispositions on provincial lands and the mining industry. Porsild's Bryum is found within traditional territories of numerous First Nations in Alberta, but the implementation of the action plan (i.e., inventory and monitoring, research, outreach and education and habitat management) is expected to have little to no effects on these communities.

2.3 Socio-economic Costs of Implementing this Action Plan

Costs are those directly associated with the implementation of the recovery measures identified in the implementation schedule (Table 1), as well as those encountered as a result of that implementation. Only the incremental costs are considered and therefore do not include ongoing actions or initiatives discussed in section 2.1 (Policy Baseline). The direct and indirect costs of implementing the action plan are expected to be low (between $0 and $5 million) over the short term (2019-2023). Costs at the regional or provincial scale are expected to be minimal. Long-term (2023 onwards) costs are also expected to be minimal.

Social costs are the potential costs associated with implementing the action plan, which may have an impact on various stakeholders. Because there are a small number of known occurrences, the majority of occurrences are in protected areas, and there is lack of human-use associated with this species, the social costs anticipated from the implementation of this action plan are low.

2.4 Benefits of Implementing this Action Plan

2.4.1 Value of biodiversity to Canadians

It is anticipated that this action plan will contribute to the recovery of Porsild's Bryum and lead to the achievement of the population and distribution objective and the conservation and protection of habitat for the species.

Biodiversity is essential for healthy ecosystems, human health, prosperity, security, and wellbeing. Canadians derive many benefits from biodiversity including recreational,

aesthetic, educational, cultural benefits as well as ecological goods and services essential to human survival. Care for the environment is consistently ranked as one of Canada's top priorities in public opinion polls[4]. An opinion poll found that three quarters of Canadian respondents feel that preserving natural areas and the variety of native plant and animal life in Canada is important to them[5].

The total value of endangered species consists of non-consumptive use values (such as recreation, spiritual/cultural, research, and education), indirect use values (value of the ecological role of a species in an ecosystem), and non-use values (i.e., preserving the benefits of nature for future generations)[6]. Implementing the recovery measures of this action plan will have a positive impact on society. The direct value of this implementation, for the preservation or the enhancement of biodiversity, is not easily estimated.

2.4.2 Eco-tourism and cultural values

Eco-tourism is the fastest-growing area of the tourism industry (Mastny 2001; UNEP 2013). In 2004, this market grew three times faster than the industry as a whole and the World Tourism Organization estimates that global spending on eco-tourism is increasing by 20% a year, about six times the industry-wide rate of growth (TEEB 2008). Many of the Porsild's Bryum subpopulations are already located in or near parks (see Table 2 of the recovery strategy for details), but it is possible that education and stewardship activities may lead to a small increase in eco-tourism activity.

2.5 Distributional Impacts

Porsild's Bryum occurs on provincial, federal, and private properties, and the majority of sites are within protected areas. Thus, 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.

[4] Canada's Fourth National Report to the United Nations Convention on Biological Diversity, 2010. Available online http://www.cbd.int/doc/world/ca/ca-nr-04-en.pdf Accessed December 3, 2010.
[5] Ipsos Reid Opinion Poll "Nine in Ten (87%) Canadians Say That When Connected to Nature They Feel Happier." Released January 7, 2011, www.ispsos.ca
[6] Non-use values include bequest value (satisfaction of knowing that future generations will have access to nature's benefits), altruist value (satisfaction of knowing that other people have access to nature's benefits) and existence value (satisfaction of knowing that a species or ecosystem exists).

3. Measuring Progress

The performance indicators presented in the associated recovery strategy provide a way to define and measure progress toward achieving the population and distribution objectives.

Reporting on implementation of the action plan (under section 55 of SARA) will be done by assessing progress towards implementing the broad strategies.

Reporting on the ecological and socio-economic impacts of the action plan (under s. 55 of SARA) will be done by assessing the results of monitoring the recovery of the species and its long-term viability, and by assessing the implementation of the action plan.

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Appendix A: Effects on the Environment and Other Species

A strategic environmental assessment (SEA) is conducted on all SARA recovery planning documents, in accordance with the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*[7]. The purpose of a SEA is to incorporate environmental considerations into the development of public policies, plans, and program proposals to support environmentally sound decision-making and to evaluate whether the outcomes of a recovery planning document could affect any component of the environment or any of the Federal Sustainable Development Strategy's[8] (FSDS) goals and targets.

Recovery planning is intended to benefit species at risk and biodiversity in general. However, it is recognized that implementation of action plans may also inadvertently lead to environmental effects beyond the intended benefits. The planning process based on national guidelines directly incorporates consideration of all environmental effects, with a particular focus on possible impacts upon non-target species or habitats. The results of the SEA are incorporated directly into the action plan itself, but are also summarized below in this statement.

The measures set out in this document are expected to have no negative effects on other species. Many of the measures pertain to inventory / monitoring or research and therefore should not adversely impact other species. Other actions pertaining to outreach / stewardship and habitat management may create benefits for the surrounding habitat and ecosystems.

[7] www.canada.ca/en/environmental-assessment-agency/programs/strategic-environmental-assessment/cabinet-directive-environmental-assessment-policy-plan-program-proposals.html
[8] www.ec.gc.ca/dd-sd/default.asp?lang=En&n=CD30F295-1