



Biodiversity
Legislative Review, Comparative Analysis and
Recommendations

Final Report

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Table of Contents

Executive Summary	
1.0 Introduction	5
2.0 Background	5
2.1 Convention on Biological Diversity	
2.2 Canada's Response to the CBD	9
2.3 Nova Scotia	
3.0 Purpose of the Project	13
4.0 Research Method	13
4.1 Legislation	
4.2 Policy	14
4.3 Jurisdictions Selected for Comparative Analysis	
4.4 Areas for Consideration	17
5.0 Comparative Analysis	17
5.1 General	
5.2 Biodiversity Conservation Legislation – Australia	
5.3 Biodiversity Conservation Strategies – Canada	20
6.0 Recommended Key Elements of a Biodiversity Act for Nova Scotia	21
6.1 General Statutory Elements	
6.2 Mechanisms to Meet the 5 CBD Goals in the Strategic Plan for Biodiversity 2011-2020	
6.3 Ideas for Further Consideration	23
7.0 Concluding Comments	24
APPENDIX A	26
The Aichi Biodiversity Targets	

Executive Summary

The United Nations Convention on Biological Diversity (CBD) serves as the foundation for biodiversity law and policy by placing binding obligations on countries to achieve the following main objectives: (1) the conservation of biological diversity; (2) the sustainable use of the components of biodiversity; and (3) the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. As a signatory of the CBD, Canada completed its Biodiversity Strategy in 1995 and subsequently prepared the *2020 Biodiversity Goals and Targets for Canada* in 2016. Target 1 for Canada is to conserve at least 17% of terrestrial areas and inland water and 10% of coastal and marine areas by 2020.

Nova Scotia enacted the *Environmental Goals and Sustainable Prosperity Act (EGSPA)* in 2007. Under the *EGSPA*, 12% of the provincial land mass was legally protected and the province is currently working toward a goal of 13% protection. Progress towards other biodiversity-related goals has not been measured. In the spring of 2018, the government of Nova Scotia presented stakeholders with a draft outline of a proposed *Biodiversity Act* that is expected to be introduced in the Legislature during the current mandate. The purpose of this Biodiversity Legislative Review and Comparative Analysis is to provide information on the nature of biodiversity legislation in jurisdictions compatible with Nova Scotia and identify legislative provisions and policy directions for biodiversity protection.

Two Canadian and two Australian jurisdictions were selected for analysis. Each of the reviewed jurisdictions applies the CBD definition of biodiversity as diversity within species, between species and of ecosystems. Each jurisdiction recognizes that species, communities of species and ecosystems can be units of conservation and management and strives to address multiple threats impacting biodiversity. All four instruments include broadly stated objectives and a purpose or vision for biodiversity protection. However, not one of the four jurisdictions effectively addressed measures to enhance the benefits to all from biodiversity and ecosystem services.

Common approaches across jurisdictions include protection of threatened species and ecosystems, habitat conservation and management plans that engage with the private sector, and public consultations. But innovative strategies are also present. For example, New South Wales has a biodiversity credits and offset scheme, the statute in Western Australia provides for biodiversity conservation agreements, and Ontario recognizes the need for an urban biodiversity strategy.

Upon completion of the review and analysis, we identified 17 key elements for a biodiversity statute for Nova Scotia. These include substantive recommendations, such as a purpose section that incorporates a vision for biodiversity protection in Nova Scotia, and regulatory recommendations such as establishment of a Biodiversity Council.

1.0 Introduction

The Ecology Action Centre (EAC) is an environmental charity based in Nova Scotia. EAC takes leadership on critical environmental issues from biodiversity protection to climate change to environmental justice, and it works to catalyze change through policy advocacy and community development, as well as by building awareness.

The East Coast Environmental Law Association (ECELAW) is a public interest environmental law charity established in 2007. Based in Halifax, Nova Scotia, ECELAW advocates for the fair application of innovative and effective environmental laws in Atlantic Canada through education, collaboration and legal action.

The East Coast Environmental Law Association completed the Biodiversity Legislative Review and Comparative Analysis in March 2018 for the Ecology Action Centre.

2.0 Background and Context

2.1 Convention on Biological Diversity

The United Nations Convention on Biological Diversity (CBD) serves as the foundation for biodiversity law and policy among its 196 parties. This universally accepted Convention has been in force since 1993, and Canada was one of the first countries to ratify the CBD.

The CBD has three main objectives:

- (1) The conservation of biological diversity;
- (2) The sustainable use of the components of biodiversity; and
- (3) The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.¹

Additionally, the CBD sets out a number of obligations. Summarized from the CBD, those obligations include:

- Identify and monitor important components of biodiversity as well as identify, monitor and regulate processes and activities that are likely to have significant adverse impacts on conservation and sustainable use;²
- Establish a system of protected areas;³

¹ CBD Article 1. The CBD has 196 parties, making it one of the most widely adopted international law instruments. See CBD, "List of Parties," online: www.cbd.int/information/parties.html

² CBD Article 7 (a)-(c) and 8(l).

- Promote the protection of ecosystems and natural habitats and the maintenance of viable population of species;⁴
- Restore degraded ecosystems and protect and promote recovery of threatened species;⁵
- Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;⁶
- Preserve knowledge of Indigenous and local communities;⁷
- Adopt measures for *ex-situ* conservation of biodiversity and regulate collection of specimens from the wild;⁸
- Adopt incentives for the conservation and sustainable use of biodiversity;⁹
- Promote and encourage understanding of the value of biodiversity and measures required for its conservation by using various strategies, including by incorporating the information into educational programs;¹⁰ and
- Introduce environmental impact assessments of proposed projects that are likely to have significant adverse effects on biodiversity with a view to avoid or minimize such effects and allow for public participation where appropriate.¹¹

Article 6 of the CBD, entitled General Measures for Conservation and Sustainable Use places particular emphasis on the role of national strategies, plans and programmes.

“Each Contracting Party shall, in accordance with its particular conditions and capabilities:

(a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, *inter alia*, the measures set out in this Convention relevant to the Contracting Party concerned; and

(b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.”¹²

³ CBD Article 8(a).

⁴ CBD Article 8(d).

⁵ CBD Article 8(f) and 8(k).

⁶ CBD Article 8(h).

⁷ CBD Article 8(j).

⁸ CBD Article 9.

⁹ CBD Article 11.

¹⁰ CBD Article 13.

¹¹ CBD Article 14.

¹² CBD Article 6.

In 2010 at their tenth meeting held in Nagoya, Aichi Prefecture, Japan, the parties to the CBD adopted a revised and updated Strategic Plan for Biodiversity (2011-2020) including a set of targets to be known as the Aichi Targets.¹³ The Aichi Targets include 5 strategic goals and 20 targets. The strategic goals are listed in table below, the 20 targets can be found online at www.cbd.int/sp/targets/

The following text is taken from the Aichi Biodiversity Targets

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

2.2 Canada's Response to the CBD

As a signatory of the CBD and in response to Article 6, Canada prepared the *Canadian Biodiversity Strategy: Canada's Response to the Convention on Biological Diversity* in 1995 with five broad goals.¹⁴

The following text is taken from the Canadian Biodiversity Strategy

1. To conserve biodiversity and sustainably use biological resources.
2. To enhance both our understanding of ecosystems and our resource management capability.
3. To promote an understanding of the need to conserve biodiversity and sustainably use biological resources.
4. To provide incentives and legislation that support the conservation of biodiversity and the sustainable use of biological resources.
5. To work with other countries to conserve biodiversity, use biological resources sustainably and share equitably the benefits that arise from the utilization of genetic resources.

¹³ Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets, online: www.cbd.int/sp/default.shtml

¹⁴ Canadian Biodiversity Strategy: Canada's Response to the Convention on Biological Diversity, Biodiversity Convention Office Environment Canada, at p.2. online: www.biodivcanada.ca/560ED58E-0A7A-43D8-8754-C7DD12761EFA/CBS_e.pdf

The Canadian Biodiversity Strategy was revisited in 2016 with the publication of the *2020 Biodiversity Goals and Targets for Canada* with four goal and 19 targets. The document includes four goals and 19 targets that are to be met through collaboration with provincial and territorial governments, the participation of Aboriginal peoples, and contributions from local communities, urban and regional governments, business and industry, conservation and stewardship groups, educational and scientific institutions and citizens.¹⁵

The following is taken directly from *the 2020 Biodiversity Goals and Targets for Canada* publication:

GOAL A

BY 2020, CANADA'S LANDS AND WATERS ARE PLANNED AND MANAGED USING AN ECOSYSTEM APPROACH TO SUPPORT BIODIVERSITY CONSERVATION OUTCOMES AT LOCAL, REGIONAL AND NATIONAL SCALES.

Target 1. By 2020, at least 17 percent of terrestrial areas and inland water, and 10 percent of coastal and marine areas, are conserved through networks of protected areas and other effective area-based conservation measures.

Target 2. By 2020, species that are secure remain secure, and populations of species at risk listed under federal law exhibit trends that are consistent with recovery strategies and management plans.

Target 3. By 2020, Canada's wetlands are conserved or enhanced to sustain their ecosystem services through retention, restoration and management activities.

Target 4. By 2020, biodiversity considerations are integrated into municipal planning and activities of major municipalities across Canada.

Target 5. By 2020, the ability of Canadian ecological systems to adapt to climate change is better understood, and priority adaptation measures are underway.

GOAL B

BY 2020, DIRECT AND INDIRECT PRESSURES AS WELL AS CUMULATIVE EFFECTS ON BIODIVERSITY ARE REDUCED, AND PRODUCTION AND CONSUMPTION OF CANADA'S BIOLOGICAL RESOURCES ARE MORE SUSTAINABLE.

Target 6. By 2020, continued progress is made on the sustainable management of Canada's forests.

¹⁵ 2020 Biodiversity Goals & Targets for Canada, [Ottawa]: Environment and Climate Change Canada, c2016, at p.3.

Target 7. By 2020, agricultural working landscapes provide a stable or improved level of biodiversity and habitat capacity.

Target 8. By 2020, all aquaculture in Canada is managed under a science-based regime that promotes the sustainable use of aquatic resources (including marine, freshwater and land based) in ways that conserve biodiversity.

Target 9. By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem-based approaches.

Target 10. By 2020, pollution levels in Canadian waters, including pollution from excess nutrients, are reduced or maintained at levels that support healthy aquatic ecosystems.

Target 11. By 2020, pathways of invasive alien species introductions are identified, and risk-based intervention or management plans are in place for priority pathways and species.

Target 12. By 2020, customary use by Aboriginal peoples of biological resources is maintained, compatible with their conservation and sustainable use.

Target 13. By 2020, innovative mechanisms for fostering the conservation and sustainable use of biodiversity are developed and applied.

GOAL C

BY 2020, CANADIANS HAVE ADEQUATE AND RELEVANT INFORMATION ABOUT BIODIVERSITY AND ECOSYSTEM SERVICES TO SUPPORT CONSERVATION PLANNING AND DECISION-MAKING.

Target 14. By 2020, the science base for biodiversity is enhanced and knowledge of biodiversity is better integrated and more accessible.

Target 15. By 2020, Aboriginal traditional knowledge is respected, promoted and, where made available by Aboriginal peoples, is regularly, meaningfully and effectively informing biodiversity conservation and management decision-making.

Target 16. By 2020, Canada has a comprehensive inventory of protected spaces that includes private conservation areas.

Target 17. By 2020, measures of natural capital related to biodiversity and ecosystem services are developed on a national scale and progress is made in integrating them into Canada's national statistical system.

GOAL D

BY 2020, CANADIANS ARE INFORMED ABOUT THE VALUE OF NATURE AND MORE ACTIVELY ENGAGED IN ITS STEWARDSHIP.

Target 18. By 2020, biodiversity is integrated into the elementary and secondary school curricula.

Target 19. By 2020, more Canadians get out into nature and participate in biodiversity conservation activities.

In addition to Canada's Biodiversity Strategy, five provinces and one territory in Canada are recognized as having strategies or action plans in place: New Brunswick, Manitoba, Northwest Territories, Ontario, Quebec and Nova Scotia.¹⁶

2.3 Nova Scotia

The *Environmental Goals and Sustainable Prosperity Act (EGSPA)* was passed in Nova Scotia in 2007. The statute includes 21 goals, many with targets and timelines. Two of the *EGSPA* goals relate directly to biodiversity:

- 1) Twelve per cent of the total land mass of the Province will be legally protected by the year 2015;¹⁷ and
- 2) The Province will adopt strategies to ensure the sustainability of the Province's natural capital in the areas of forestry, mining, parks and biodiversity by the year 2010.¹⁸

The goal to protect 12% of land mass was met in 2015. In an effort to address the *EGSPA* strategy goal, the government of Nova Scotia engaged in a multi-year research and consultation process leading to publication of *The Path We Share: A Natural Resources Strategy for Nova Scotia (2011-2020)* ('*Natural Resources Strategy*'). The Biodiversity section of the *Natural Resources Strategy*, which is based on the recommendations of an expert panel report,¹⁹ includes four broad goals.

¹⁶ Sub-National Biodiversity Strategies: www.biodivcanada.ca/default.asp?lang=En&n=CB2446A5-1

¹⁷ *Environmental Goals and Sustainable Prosperity Act*, SNS 2007, c.7, s. 4(2)(v), as am.

¹⁸ *Environmental Goals and Sustainable Prosperity Act*, SNS 2007, c.7, s. 4(2)(y), as am.

¹⁹ Biodiversity: The Foundation for Environmental, Social and Economic Prosperity in Nova Scotia. A Panel of Expertise Report on Biodiversity to the Steering Panel, February 2010.

The following text is taken from *The Path We Share: A Natural Resources Strategy for Nova Scotia (2011-2020)*.

The Goals

Good governance. Establish clear and effective leadership and governance related to biodiversity in Nova Scotia.

Research and knowledge sharing. Increase and share knowledge about biodiversity to help governments and interested groups make informed decisions and take responsible action.

Ecosystem approach. Work together to maintain and restore healthy wildlife populations, ecosystems, and ecosystem processes.

Education and shared stewardship. Engage Nova Scotians in understanding, appreciating, and taking care of the province's biodiversity.²⁰

In addition to those four biodiversity goals, the Natural Resources Strategy includes 20 biodiversity-related action items intended to facilitate the specific outcomes. The Nova Scotia outcomes are adapted from the 2006 *A Biodiversity Outcomes Framework for Canada* document.²¹ The four outcomes are as follows:

- Healthy and diverse ecosystems;
- Viable populations of species;
- Genetic resources and adaptive potential; and
- Sustainable use.²²

The broad biodiversity goals and outcomes enunciated in the Natural Resources Strategy were substantially narrowed in the follow-up progress reports. The only action items identified and followed in the progress reports were to:

- Support biodiversity protection and ecological connectivity,
- Expand recovery of species at risk, and
- Take stock of biodiversity in Nova Scotia.²³

In 2015, ECELAW released a report entitled *Protected on Paper Only: Evaluation of Nova Scotia's legal obligations to protect and recover mainland moose and other species-at-risk*. That report identified the chronic failure of the Department of Natural Resources (DNR) to uphold its legal obligations under the provincial *Endangered Species Act*²⁴, including a failure

²⁰ The Path We Share: A Natural Resources Strategy for Nova Scotia (2011-2020) at p.24.

²¹ *A Biodiversity Outcomes Framework for Canada*, 2006, Online: www.cbd.int/doc/world/ca/ca-nbsap-oth-en.pdf

²² The Path We Share: A Natural Resources Strategy for Nova Scotia (2011-2020) at p.27.

²³ 12-Month Progress Report Nova Scotia's Natural Resources Strategy 2011-2020, August 2012, and The Path We Share: A Natural Resources Strategy for Nova Scotia 2011-2020 24-Month Progress Report

²⁴ *Endangered Species Act*, SNS 1998, c.11

to complete multiple mandated recovery plans.²⁵ The provincial Auditor General's Audit of the DNR echoed the concerns highlighted in ECELAW's report a year later.²⁶ Although the DNR accepted all of the recommendations of the Auditor General and committed to developing a comprehensive, multi-year work plan that was to be released in October 2016, there is no sign of the plan to date.²⁷

The 5-year report on the Natural Resources Strategy, released in 2016, demonstrated little progress on the biodiversity goals initially set out in the Strategy. During the election campaign in the spring of 2017, the Liberal Party promised a *Biodiversity Act* would be passed if they were returned to government:

"We will work with stakeholders and the public to develop a new Biodiversity Act. It will be designed to modernize the current legal framework and improve protections for forests, lakes, plants, animals and people."²⁸

In January 2018, the DNR held two invited stakeholder sessions to present the key elements of a proposed *Biodiversity Act*, which were:

- Close legislative gaps between departments.
- Provide for cross-governmental leadership/coordination.
- Enable standard enforcement tools.
- Mandate state of biodiversity reporting.
- Provide tools for risk management, conservation and use.
- Enable regulations for priority issues.
- Enable regulatory management of:
 - Harvest/utilization of other wild species;
 - Introduction/release of species; and
 - Ecosystem and habitat loss.
- Biodiversity Protection Orders for serious threats (emergencies)
- Biodiversity Management Sites (flexible tool for use and conservation)
- Biodiversity Council

During the presentation, little detail was provided on the individual elements of the proposed legislation, with the exception of a regulatory framework to address invasive species.

²⁵ East Coast Environmental Law and Environmental Law Student's Society, 2015. *Protected on Paper Only: Evaluation of Nova Scotia's legal obligations to protect and recover mainland moose and other species-at-risk.*

²⁶ Auditor General Report to the House of Assembly, June 2016. *Species at Risk: Management of Conservation and Recovery*, Chapter 3.

²⁷ Nova Scotia Department of Natural Resources, 2016. *The Path We Share: A Natural Resources Strategy for Nova Scotia 2011-2020 – Five-Year Progress Report* at p.13.

²⁸ Liberal Response to EAC Election Priorities Questionnaire, <https://ecologyaction.ca/election-2017>.

Stakeholders at the session noted in particular that the overview did not include any overarching principles for the statute, there were no goals or targets identified and there was no connection made between the proposed statute and the international or national goals or targets. It is anticipated that government will soon introduce a proposed Nova Scotia *Biodiversity Act*.

3.0 Purpose of the Project

The purpose of the Biodiversity Legislative Review and Comparative Analysis is to provide information on the nature of biodiversity legislation in jurisdictions compatible with Nova Scotia and identify legislative provisions and policy directions for biodiversity protection. This includes three overarching questions to be explored by the analysis:

- What biodiversity legislation and policy currently exists?
- What are the key components of the legislation or policy?
- What concepts can be drawn from the legislation or policy that may be relevant to Nova Scotia?

The goal of the research and analysis is to provide tools and information to those advocating for comprehensive biodiversity legislation in Nova Scotia.

4.0 Research Method

4.1 Legislation

To identify current biodiversity legislation, an online global search was conducted seeking any legislation under the title “biodiversity act.” This included a broad search using Google and Novanet search engines and specific searches in legislation databases.

The search revealed a number of national biodiversity laws, including:

1. Australia - *Environment Protection and Biodiversity Conservation Act*, 1999
2. Costa Rica – *Biodiversity Law* (No. 7788), 1998
3. European Union – *Natura 2000*, 2000
4. France – *Law for Biodiversity Regrowth, Nature and Landscapes*, 2016
5. India – *The Biological Diversity Act*, 2002
6. Japan – *Basic Act on Biodiversity* (Act No. 91), 1993
7. Mexico – *Biodiversity General Law*, 2017
8. Norway - *Nature Diversity Act*, 2009
9. South Africa - *National Environmental Management: Biodiversity Act*, 2004.
10. South Korea – *Natural Environment Conservation Act*, 2008
11. Vietnam – *Biodiversity Law* (No. 20), 2008

Despite the growing number of national biodiversity laws around the world, the search did not reveal any national, provincial or state biodiversity legislation in Canada or the United States. However, provincial and state jurisdictions in Canada and the United States have multiple statutes in place that address issues around fish, wildlife, forests, protected areas and invasive species.

The search revealed two state level biodiversity laws in Australia:

1. *Biodiversity Conservation Act* (2016), New South Wales;²⁹
2. *Biodiversity Conservation Act* (2016), Western Australia;³⁰

It is possible that some of the jurisdictions with national biodiversity laws also have subnational (i.e. state) biodiversity laws but that our research did not reveal such laws due to language barriers.

4.2 Policy

The search for biodiversity policy was limited to Canada.

Alberta

The Government of Alberta released a draft Biodiversity Policy in 2014 for public consultation.³¹ The policy was never finalized.

British Columbia

Biodiversity BC, a partnership of conservation and government organizations, formed in 2005 with this stated purpose: "...developing and facilitating the implementation of a science-based biodiversity strategy for B.C. to preserve B.C.'s quality of life in the face of increasing pressures, such as climate change."³² BC does not have a provincial biodiversity strategy; however, there are number of related strategies, such as Protecting Vulnerable Species: A Five-year Plan for Species at Risk in British Columbia (2014), Invasive Species Strategy for BC (2012), Conservation Framework (2009) and Identified Wildlife Management Strategy (2004).

Manitoba

The Government of Manitoba released Tomorrow Now: Manitoba's Green Plan in 2012. The Green Plan is a general environmental action plan and not specifically a biodiversity plan or policy; however, it includes recommendations on the development of a habitat protection

²⁹ *Biodiversity Conservation Act* 2016 (NSW), www.legislation.nsw.gov.au/#/view/act/2016/63/full

³⁰ *Biodiversity Conservation Act* 2016 (WA), www.legislation.wa.gov.au/legislation/statutes.nsf/law_a147120.html

³¹ Alberta's Biodiversity Policy Draft, online at: www.aenweb.ca/files/draft_albertas_biodiversity_policy_december_2014.pdf

³² Biodiversity BC, online at: www.biodiversitybc.org/EN/topnav/32.html

policy to offset biodiversity loss, a new fish and wildlife enhancement fund, stronger invasive species measures, enhanced wildlife disease control, and a new boreal forest plan.

New Brunswick

The Premier of New Brunswick released a provincial Biodiversity Strategy in 2009.³³

Newfoundland and Labrador

Newfoundland and Labrador does not have a biodiversity strategy or a broader strategy for which biodiversity is a subcomponent; however, the Canadian Biodiversity Strategy has been integrated into many provincial planning processes, such as the development of a sustainable forest management strategy and protected areas planning.

Northwest Territories

The NWT Biodiversity Team released a Biodiversity Action Plan in 2004³⁴ and a follow-up Biodiversity Action Plan Report on Gap and Overlap Analysis and Recommendations for Future Actions in 2006³⁵. The 2004 NWT Biodiversity Action Plan describes initiatives in the Northwest Territories that touched on the goals of Canadian Biodiversity Strategy and the UN Convention on Biological Diversity. An update of the 2006 gap/overlap analysis with recommended future action was planned for 2016.

Nunavut

Nunavut does not have a biodiversity policy, plan or strategy.

Ontario

The Ontario Biodiversity Council released the first provincial Biodiversity Strategy in 2005 and a second in 2011.³⁶

Prince Edward Island

Prince Edward Island does not have a biodiversity policy, plan or strategy.

Quebec

The Quebec Minister of Environment released a Biodiversity Strategy and Biodiversity Action Plan in 2004, covering the period 2004-2007.³⁷ Quebec adopted biodiversity guidelines in

³³ New Brunswick Biodiversity Strategy, online at: www.cbd.int/doc/nbsap/sbsap/ca-sbsap-new-brunswick-en.pdf

³⁴ NWT Biodiversity Action Plan: Major Initiatives on Biodiversity, online at: www.enr.gov.nt.ca/sites/enr/files/nwt_bap_report_1_complete.pdf

³⁵ Biodiversity Action Plan. Report Two: Gap and Overlap Analysis and Recommendations for Future Actions 2004-2005, online at: www.enr.gov.nt.ca/sites/enr/files/biodiversity_action_plan_final.pdf

³⁶ Ontario Biodiversity Strategy, on-line at: www.cbd.int/doc/nbsap/sbsap/ca-sbsap-ontario-en.pdf

³⁷ Quebec Biodiversity Strategy, on-line at: www.cbd.int/doc/nbsap/sbsap/ca-sbsap-quebec-p1-fr.pdf Biodiversity Action Plan on-line at: www.cbd.int/doc/nbsap/sbsap/ca-sbsap-quebec-p2-fr.pdf

2013 that are in line with the UN Convention on Biological Diversity's Strategic Plan for Biodiversity 2011-2020 and the Aichi biodiversity targets.

Saskatchewan

The Saskatchewan Minister of Environment released a provincial Biodiversity Action Plan in 2004, entitled: *Caring for Natural Environments: A Biodiversity Action Plan for Saskatchewan's Future 2004-2009*.³⁸ The plan was followed by the related Saskatchewan Prairie Conservation Action Plan Framework 2014-2018 in 2014.³⁹

Yukon

Yukon Territory does not have a biodiversity policy, plan or strategy.

The search revealed that of the nine provinces (not including Nova Scotia) and three territories, five have a biodiversity policy or action plan (NB, NWT, Ont, Que, Sask). Of the five, the most current are:

- 1) Ontario's Biodiversity Strategy (2011);⁴⁰ and
- 2) Biodiversity Strategy: Conserving Biodiversity and Using Biological Resources in a Sustainable Manner (2009) in New Brunswick.⁴¹

4.3 Jurisdictions Selected for Comparative Analysis

Based on the global review for state level biodiversity legislation and the Canadian review for biodiversity policy, four jurisdictions were selected for further review and comparative analysis:

1. *New South Wales Biodiversity Conservation Act* (2016);
2. *Western Australia Biodiversity Conservation Act* (2016);
3. Ontario's Biodiversity Strategy (2011); and
4. New Brunswick's Biodiversity Strategy (2009).

³⁸ *Caring for Natural Environments: A Biodiversity Action Plan for Saskatchewan's Future 2004-2009*, online at: www.cbd.int/doc/nbsap/sbsap/ca-sbsap-saskatchewan-en.pdf

³⁹ Saskatchewan Prairie Conservation Action Plan Framework 2014-2018, online at: www.pcap-sk.org/rsu_docs/documents/PCAP_framework_2014.pdf

⁴⁰ Ontario's Biodiversity Strategy 2011: ontariobiodiversitycouncil.ca/wp-content/uploads/Ontarios-Biodiversity-Strategy-2011-accessible.pdf

⁴¹ Biodiversity Strategy: Conserving Biodiversity and Using Biological Resources in a Sustainable Manner (2009): www2.gnb.ca/content/dam/gnb/Departments/nr-rn/pdf/en/ForestsCrownLands/Biodiversity.pdf

4.4 Areas for Consideration

Having identified the jurisdictions for review and analysis, a list of nine areas for consideration to facilitate an effective comparative analysis were selected. The nine areas are divided into two parts, as follows:

Part I General

- 1) Application of the law or policy;
- 2) Purpose or objectives;
- 3) Definition of the term biodiversity;
- 4) Definition of other relevant terms;
- 5) Lead and supporting government agencies;
- 6) Biodiversity thresholds and targets;
- 7) Tools to facilitate access to information by the public; and
- 8) Enforceability.

Part II Mechanisms to meet the five strategic goals found in the CBD Strategic Plan for Biodiversity 2011-2020:

- 1) Mainstreaming biodiversity across government and society;
- 2) Reducing the direct pressures on biodiversity and promoting sustainable use;
- 3) Safeguarding ecosystems, species and genetic diversity;
- 4) Enhancing the benefits to all from biodiversity and ecosystem services; and
- 5) Enhancing implementation through participatory planning, knowledge management and capacity building.

As described in section 2.0 above, the five strategic goals can be found in the CBD Strategic Plan for Biodiversity 2011-2020. The information for the comparative analysis is based on these goals and informed by the obligations under the CBD and the 20 Aichi Biodiversity Targets.⁴² To provide a useful means of comparing the nine areas of consideration across jurisdictions, we prepared an Excel spreadsheet that cross-references the legislative or policy provisions that address each item. This formed the foundation for the analysis presented in this Report.

5.0 Comparative Analysis

5.1 General

The CBD defines biological diversity as:

⁴² The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets, UNEP/CBD/COP/DEC/X/2 (2010), online at: www.cbd.int/doc/decisions/cop-10/cop-10-dec-02-en.pdf

“the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.”⁴³

This definition of biodiversity, along with the obligations listed in Articles 6 to 14 of the CBD, laid the foundation for a comprehensive approach to biodiversity conservation in legislation and policy.

Our analysis indicated that this approach was implemented in all four jurisdictions reviewed in the Report. Each jurisdiction recognizes that species, communities of species and ecosystems can be units of conservation and management. Each jurisdiction strives to address multiple threats impacting biodiversity. Although the two provincial strategies cover a wider range of issues, the statutes also introduce multiple tools to address biodiversity conservation that are aimed at protecting species and ecosystems and managing human activities. It is important to recognize that the New Brunswick and Ontario strategies are policy documents that set direction and facilitate future legislative provisions, and, unlike legislation, they cannot be enforced. Given that, it is to be expected that these documents would have a broader and more comprehensive approach.

All four jurisdictions include broadly stated objectives and a purpose or vision for biodiversity protection. However, not one of the four jurisdictions effectively addressed measures to enhance the benefits to all from biodiversity and ecosystem services.

5.2 Biodiversity Conservation Legislation – Australia

Australia is a federal state, with the Commonwealth, State and Territorial governments sharing the jurisdiction for environmental matters.⁴⁴ The Commonwealth government has the responsibility for matters of national environmental significance, as is outlined in the *Environmental Protection and Biodiversity Conservation Act 1999*. The State and Territorial governments are responsible for matters of state and local significance.⁴⁵ The following summary provides a brief overview of the approach taken by the two reviewed Australian states based on the nine areas of considerations.

Both the Western Australia (WA) and New South Wales (NSW) statutes focus on safeguarding ecosystems, species and genetic diversity, creating strategies to reduce direct pressure on

⁴³ Convention on Biological Diversity, Article 2.

⁴⁴ Australian Government, Department of the Environment and Energy, “Heads of Agreement on Commonwealth and State Roles and Responsibilities for the Environment” (1997), online at: www.environment.gov.au/resource/heads-agreement-commonwealth-and-state-roles-and-responsibilities-environment

⁴⁵ Australian Government, Department of the Environment and Energy, “About the EPBC Act”, online at: www.environment.gov.au/epbc/about

biodiversity and mainstreaming biodiversity across government and society by creating incentives for conservation. To encourage compliance, both statutes establish criminal and civil penalties and support enforcement with investigative powers.

Although both statutes adopt definitions of biodiversity that include diversity of genes, species and ecosystems, they have limited application to the aquatic environment. The WA *Biodiversity Conservation Act* (BCA) does not apply to fish or pearl oysters that are subject to aquaculture, commercial or recreational fishing, hatchery or pearling legislation. The NSW BCA only covers the terrestrial environment.

To safeguard species, ecosystems and genetic diversity, both the WA BCA and the NSW BCA provide protection for threatened species and ecological communities. In both states, the processes for listing species and ecological communities are outlined along with corresponding protective measures and obligations on the agency heads to develop recovery strategies. The WA BCA also provides for conservation and management of species and ecological communities that are not threatened as well as conservation and management of critical habitat through development of biodiversity management programs.

The WA BCA deals directly with the issue of invasive species by establishing a process for designating species as environmental pests and providing authority to the agency head to issue orders to land owners to take specified actions to control the pest. The NSW BCA addresses this in separate legislation, the *Biosecurity Act* (2015), and policy.⁴⁶

Both jurisdictions rely on conservation agreements with private landowners to decrease direct pressure, encourage sustainable use and provide incentives for conservation of biodiversity. The NSW BCA goes a step further by establishing a market-based biodiversity offset scheme for use by landowners and project developers.

With respect to Strategic Goal 3, enhancing benefits to all from biodiversity and ecosystem services, neither statute addresses this area of concern in a substantial way. The treatment is limited to the WA BCA, which requires equitable considerations to be incorporated into decision-making under the Act.

With respect to Strategic Goal 4, enhancing implementation through participatory planning, knowledge management and capacity building, both statutes focus on participatory planning by providing for public consultations. The consultation obligations are more extensive under the NSW BCA and apply to the majority of the initiatives under the Act, while under the WA BCA public comments are limited to species and ecosystem recovery plans. WA BCA provides for consultation with stakeholders during the development of biodiversity management programs and a code of practice for ecotourism. In addition to public consultations, both

⁴⁶ Also developing the NSW Invasive Species Plan 2017-2021 to replace the NSW Invasive Species Plan 2008-2015.

statutes have provisions that facilitate public access to information through a combination of public registries, the Gazette and agencies' websites. Furthermore, both statutes have to be reviewed every 5 years and a report on the outcomes of the review must be introduced in Parliament.⁴⁷

5.3 Biodiversity Conservation Strategies - Canada

The Canadian Biodiversity Strategy came out in 1995, and it outlined the framework of action by federal, provincial and territorial governments in cooperation with stakeholders and members of the public.⁴⁸ The Biodiversity Outcomes Framework for Canada 2006 built upon the ten years of cooperation and identified objectives and actions for the way forward. The two provincial strategies reviewed in this Report were developed in response to the federal initiatives.

The strategies in New Brunswick (NB) and Ontario (ON) approach biodiversity conservation from a broad perspective that reaches across multiple government agencies. Both strategies cover all ecosystems in terrestrial and aquatic environments. In NB, the Department of Natural Resources is designated as the lead with other departments assigned supporting roles based on their area of competence. In ON, the approach is expanded to include stakeholders. The membership of the Ontario Biodiversity Council that developed the strategy includes representatives from government, industry and academia, as well as non-governmental and Indigenous organizations.

The strategy is to be reviewed every 10 years in NB and 5 years in ON, but details on how the outcomes of the review are going to be made available to the public are not provided. Both the NB and ON strategies address all five strategic goals. ON has the most comprehensive approach to Strategic Goal 1, addressing underlying causes of biodiversity loss by mainstreaming biodiversity across government and society. The ON Strategy includes tools to increase public awareness of the value of biodiversity through communication and education, to incorporate biodiversity concerns into government and business sector decision-making and to explore economic incentives. In NB, the focus is on incorporating biodiversity consideration in all provincial and municipal management plans. NB and ON call for legislation and policy review in their respective provinces to ensure alignment with the strategies.

The two provinces take different approaches to Strategic Goal 2, reducing direct pressures on biodiversity and promoting sustainable use. ON looks to make urban centers more sustainable by calling for action on urban sprawl and public transportation, while in rural areas the focus is on landscape conservation planning and increasing the proportion of private land managed for conservation. The ON Strategy also identifies energy conservation and sustainable energy

⁴⁷ Note that the WA CBA is not fully operational, since parts of the statute are not yet in force.

⁴⁸ Canadian Biodiversity Strategy: Canada's Response to the Convention on Biological Diversity 1995, at p.3.

supplies as a key action. In NB the focus is on provincial goals for the industrial sectors to address sustainability of their products and services.

Both strategies call for measures to minimize the threat of invasive species as one of the tools to improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity. The two strategies also identify protected areas, conservation and sustainable use of species as necessary pieces. ON identifies additional measures that are necessary, such as genetic resource management of wild species and implementation of urban biodiversity plans. It is also calls for climate change vulnerability assessments and adaptation plans for vulnerable species and ecosystems.

In order to enhance benefits to all from biodiversity and ecosystem services, the NB Strategy identifies the need for a climate change strategy that provides mitigation and adaptation planning for ecologically, socially and economically important ecosystems and species. The ON Strategy identifies water as an ecosystem service that needs to be conserved and carbon sequestering in ecosystems as ecosystem services that can be used to mitigate against climate change.

Both the NB and ON strategies recognize the need to engage stakeholders and the public in conservation of biodiversity. In addition, they also identify the need to increase scientific research in order to enhance implementation through participatory planning, knowledge management and capacity building. However, both strategies treat public access to information as a narrow issue of access to scientific information, and neither addresses the participatory aspect of this issue.

NB's strategy relies extensively on goal setting as a tool to achieve biodiversity conservation objectives, which could be effective given that NB is the only reviewed jurisdiction that addressed the issue of biodiversity thresholds and targets. Although specific numbers are not set, the strategy describes the process that should be followed.

6.0 Recommended Key Elements of a *Biodiversity Act* for Nova Scotia

Based on the review and analysis undertaken for this Report, we recommend the following key elements of a biodiversity statute for Nova Scotia:

6.1 General Statutory Elements

The following recommendations are aimed at ensuring that the proposed *Biodiversity Act* applies to all ecosystems in the province and contains sufficient detail for effective administration and periodic review:

1. Application of the statute extends to terrestrial and aquatic ecosystems.

2. Lead legislative responsibility rests with the Minister of Environment.
3. The Act provides for a Biodiversity Council led by the Minister of Environment that also includes other government Ministers (e.g. Natural Resources, Fisheries and Aquaculture), First Nations, non-government organizations, industry, and experts.
4. The Act includes a purpose section that incorporates a vision for biodiversity protection in Nova Scotia in line with national and international commitments and key principles including precaution, intergenerational equity, and recognition of Indigenous rights.
5. The Act includes a definition of biological diversity or biodiversity that is in line with the CBD definition and includes genetic diversity, species diversity and ecosystem diversity.
6. The Act includes additional terms and definitions as required by the statute, including genetic diversity, species diversity, ecosystem diversity, alien or invasive species and ecological community.
7. The Act includes specific biodiversity outcomes, goals and targets.
8. The Act includes prohibitions with associated penalties to ensure habitat and species protection, including addressing invasive species.
9. The Act provides for an annual biodiversity report on status of forest, wetland, aquatic, coastal ecosystems and specific species, as well as an annual report on biodiversity outcomes.
10. The Act provides for a mandatory 7-year public review of the statute and regulations.
11. The Act provides for designated enforcement officers with authorities for inspection and enforcement tools.
12. Consequential amendments to related statutes such as the *Environmental Goals and Sustainable Prosperity Act*, *Endangered Species Act* and *Wilderness Areas Protection Act* should be considered.

6.2 Mechanisms to Meet the 5 CBD Goals in the Strategic Plan for Biodiversity 2011-2020

The following recommendations provide specific tools that can help to ensure that the proposed *Biodiversity Act* contributes towards achievement of the strategic goals.

13. Regulatory authority to establish programs to meet outcomes, goals and targets, including incorporation into impact assessment and management plans.
 - Incorporating biodiversity outcomes, goals and targets into impact assessment and management plans can help reduce direct pressure on biodiversity and promote sustainable use.
14. Mandatory inventory and monitoring activities to include the data needed for assessment of biodiversity and to evaluate progress toward meeting outcomes.
 - Collecting data needed for biodiversity assessments and progress evaluations will contribute to implementation through knowledge management.
15. Expand endangered species identification, protection and recovery to encompass vulnerable or threatened ecological communities and habitats.
 - Expanding identification, protection and recovery planning to ecological communities and habitats will help safeguard ecosystems, species and genetic diversity in a holistic manner, consistent with CBD obligations.
16. Establish an online public Biodiversity Registry (may be combined with an endangered species registry).
 - A public Biodiversity Registry can help implementation through knowledge management.
17. Establish public engagement and consultation programs.
 - Public engagement and consultation programs will contribute to enhanced implementation through participatory planning; they can also assist with capacity building and ensuring that benefits from biodiversity and ecosystem services are widely shared.
18. Mandate development of industry sustainability plans.
 - Industry sustainability plans can contribute to reducing direct pressure on biodiversity and promoting its sustainable use.

6.3 Ideas for Further Consideration

Based on our review, the following are innovative tools that are used in the reviewed jurisdictions to achieve the strategic goals. Additional details about these tools can be found in the included spreadsheet.

1. Biodiversity conservation agreements (WA)
 - Agreements between the government and landowners can help reduce direct pressure on biodiversity and promote sustainable use.
2. Biodiversity assessments and accreditation (NSW)

- Establishing methods for biodiversity assessments and ensuring qualifications of professionals who conduct them will help with quality and consistency across the province.
3. Declarations of areas of outstanding biodiversity value (NSW)
 - Declarations can help safeguard ecosystems, species and genetic diversity by targeting conservation action where it will have the greatest impact.
 4. Biodiversity credits and offset scheme (NSW)
 - An offset scheme provides financial incentives to private parties to engage in conservation as well as a mechanism for financing government conservation activities.
 5. Biodiversity management programs (WA)
 - Programs that provide for conservation and management of non-threatened species and ecological communities can help to promote sustainable use of biodiversity.
 6. Biodiversity conservation investment strategy (NSW)
 - Developing an investment strategy can assist with setting priorities for investment in conservation activities.
 7. Biodiversity conservation trust (NSW)
 - A statutory body that has the power to enter into business transactions to advance biodiversity goals may provide additional conservation opportunities and financing options.
 8. Genetic resource management strategy for wild species (ON)
 - A strategy for wild species can contribute to sustainable use of biodiversity as well as enhance implementation through knowledge management.
 9. Urban biodiversity strategy (ON)
 - An urban strategy can assist with reducing direct pressure on biodiversity as well as safeguarding ecosystems, species and genetic diversity.

7.0 Concluding Comments

Nova Scotia has an opportunity to become the first jurisdiction in Canada to enact a statute that takes a comprehensive approach to identifying, monitoring and protecting biodiversity from a variety of threats. Legislation and policy reviewed for this report provide examples of innovative approaches to implementing the CBD obligations and taking action towards achieving the five strategic goals.

The Nova Scotia government has identified the need for a *Biodiversity Act* by identifying a few elements; however, it is not clear if the approach considered by government will be comprehensive or piecemeal. It is possible to develop a regulatory framework that integrates with existing related statutes in Nova Scotia while seeking to more comprehensively address national and international goals as well as meet the provincial needs.

APPENDIX A
The Aichi Biodiversity Targets

Text taken from www.cbd.int/sp/targets/

Strategic Goal A: *Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.*

1 By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

2 By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

3 By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.

4 By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Strategic Goal B: *Reduce the direct pressures on biodiversity and promote sustainable use.*

5 By 2020, the rate of loss of all natural habitats, including forests, is at least halved and, where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

6 By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

7 By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

8 By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

9 By 2020, invasive alien species and pathways are identified and prioritized, priority species

are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

10 By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Strategic Goal C: *Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.*

11 By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.

12 By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

13 By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

Strategic Goal D: *Enhance the benefits to all from biodiversity and ecosystem services.*

14 By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and wellbeing, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

15 By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

16 By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Strategic Goal E: *Enhance implementation through participatory planning, knowledge management and capacity building.*

17 By 2015, each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

18 By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities at all relevant levels.

19 By 2020, knowledge, the science base and technologies relating to biodiversity, its values functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

20 By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties.