

March 25, 2019

Standing Committee on Law Amendments Office of the Legislative Counsel CIBC Building 802-1809 Barrington Street PO Box 1116 Halifax NS B3J 2X1 Phone Number: 902-424-8941

Email: Legc.office@novascotia.ca

Subject: BILL NO. 116 - Biodiversity Act

To the Standing Committee on Law Amendments,

The Nova Scotia Nature Trust (Nature Trust) is pleased to submit this letter to the Law Amendments Committee containing comments associated with Bill No. 116 - *Biodiversity Act* (the Act).

The Nature Trust is a private land conservation organization dedicated to protecting the province's outstanding natural legacy. Since it was formed in 1994, the Nature Trust has protected over 11,000 acres of land within Nova Scotia, including some of the province's most biologically diverse and sensitive habitats and we continue to identify and work towards the securement of ecologically important lands across the province. The conservation of the province's natural biodiversity is a fundamental component and goal of our efforts. Working in partnership with landowners, local communities, other conservation organizations and all levels of government we protect and steward ecologically significant lands. Protection is accomplished most often through donation, purchase, or conservation easement. Once a property is secured, we commit to steward the land in perpetuity. Stewardship includes monitoring and mitigating potential impacts to its biodiversity values. These efforts are enhanced by a network of conservation experts and passionate, knowledgeable and enthusiastic local stewardship volunteers.

The Nature Trust commends the province for the introduction of a *Biodiversity Act* that will strengthen existing efforts to conserve Nova Scotia's wild species, habitats, and ecosystems. The Act enables greater protection for biodiversity by introducing new Ministerial powers and duties; clarifying the roles, responsibilities, and powers of conservation officers and other personnel; providing for greater enforcement; clarifying offences and penalties; and allowing for the development of associated regulations. The proposed Act allows for greater protection of biodiversity by introducing tools such as the use of biodiversity management zones and by addressing threats to biodiversity, including invasive species, pathogens, and disease.



With almost 70% of Nova Scotia being privately-owned, the role of conservation on private lands is extremely important for maintaining our province's biodiversity. Although encouraged by the potential of the *Biodiversity Act*, we believe that the Act may be strengthened by a greater acknowledgement of the role that privately-owned lands have on the province's biodiversity; including that of land trusts and individual land owners in the stewardship of their land. Ensuring long-term financial support for the protection of privately owned lands within Nova Scotia is of concern considering that the indenture for the Nova Scotia Crown Share Land Legacy Trust (established in 2008 to provide funds for the securement and protection of ecologically significant, threatened and irreplaceable natural areas on private lands in Nova Scotia) will expire on March 31, 2023. Within the same context, biodiversity protection through the stewardship of privately owned lands could be enhanced through the use of incentives for voluntary engagement. Improved protection of Nova Scotia's biodiversity may also benefit through further assessment of the relative threats to biodiversity; including land use and the release of chemicals and other deleterious substances to the environment that are not explicitly addressed in the Act.

The relationship of the *Biodiversity Act* with other existing statutes including, but not limited to, the *Wilderness Protection Act, Endangered Species Act, Conservation Easements Act,* and the *Wildlife Act* should be clarified. In addition, the Province should consider the need to amend existing statutes as a consequence of this Act.

The development of accompanying regulations will be critical to ensure the appropriate monitoring and enforcement of the Act and should be advanced under a program of meaningful and timely public consultation. In consideration of the above, the Nature Trust respectively suggests that the following revisions to the Act be considered by the Law Amendments Committee:

Section 7 (i):

- Amend wording to include "land securement and stewardship" such that the Minister may "provide funding and other support for biodiversity-related research, investigation and monitoring; as well as land securement and stewardship".

Section 46 (1)

 Add an item such that the Governor in Council may make regulations "respecting the role of land securement and stewardship on private lands for protecting biodiversity".

Thank-you for the opportunity to provide comments on the *Biodiversity Act*. We look forward to continued engagement with the Province during development of applicable regulations.

Sincerely,

Ross Firth Director of Conservation

DEBBY REEVES

Presentation to Nova Scotia Government Law Amendments Committee

March 25, 2019

Topic: Introduction of Bill No. 116 Biodiversity Act

As a private woodlot owner I support biodiversity as part of my good forest management. My management must include economic returns and a balanced approach to forestry practices and harvesting while working to take into consideration ecological aspects of my plan including biodiversity.

In Bill 116 "Biodiversity Act" the only mention of private is "private sector" in paragraph 6 of the Whereas(s) introduction. Nowhere in the act is their mention of "private woodland owners". We are and should be distinguished from other landowners as we play a different role in the sustainable use of our land for economic benefit as well as contributing to ecological goods and services – biodiversity.

This Act is overreaching and everything is part of biodiversity. This could result in unintended consequences such as even stopping us from cutting dying fir trees as they could provide habitat for some types of bugs. Or stop Christmas tree growers from planting genetic modified seedlings.

Darcy Merryweather, who is appearing with me today, and myself have been involved in meetings, workshops, and consultations regarding biodiversity since the release of the report on biodiversity "The Foundation for Environmental, Social and Economic Prosperity in Nova Scotia" released in February 2010.

In Section 5 of that report one of the recommendations was to "develop incentives and remove impediments to conserving land and maintaining natural capital in recognition of the fact that taking privately owned land out of production to protect biodiversity may be in the public good but may represent a cost to the land owner" (Page 18) In the current Act the only mention of privately owned land is in 12 (a) with regard to a biodiversity management zone, however, it does not include the critical component of compensation to the landowner. Few woodlot owners will enter into agreements for a management zone unless there is adequate compensation for the loss of the use of their land for a period of time and there is future financial support to rehabilitate the land at the end of the agreement should the forest tree species suffer undue damage as a result of the lack of management over the course of the agreement. This would be unfortunate as we have the knowledge and understanding of the applied science of forestry to enhance, improve, and encourage biodiversity while at the same time still receiving economic benefits from our woodlots.

The Government of Canada in their Canadian Biodiversity Strategy Section 1) D "Sustainable Use of Biological Resources" recognize that forestry companies and woodlot owners are important to assist with forest biodiversity. Strategic Directive 1.65 "Assess current and <u>proposed</u> major government forest policies and programs to ensure that ecological, *economic* social and cultural objectives have been considered."

In the Nova Scotia Act 116, the importance of woodlot owners who own 70% of the forest land base and support for them including economic supports to assist in the promotion of biodiversity is omitted.

It seems obvious that the committee and the writers of this Act did not have a full understanding of the complexities of private woodland ownership and that a need for a balanced approach to protect the economic livelihoods of woodlot owners in this province and the contribution they make to their rural communities has to be a critical component of this Act.

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In this Act the Minister is given extreme powers that may be exercised to protect biodiversity and impose penalties and fines that are to the point of extreme compared to those in other acts.

Although the current Minister (Iain Rankin) has been quoted in the media saying this act will NOT be implemented on private land, there is no such assurances in this Act and without that assurance, we as woodlot owners will live in a very uncertain world wondering when we will be penalized for an unintended act or worse yet a willful act by a trespasser and which will put our woodlots, ourselves and our families and our livelihoods in jeopardy.

As part of a workshop heading to the formation of a committee and the writing of this Act we ask to be part of a review of the Act (in draft) before it came to the legislature. We were told that this review was not possible as it was not part of the policies and procedures for creating an Act. At this point that the Act has come to the house I respectfully ask this committee to recommend that very review by those woodlot owner stakeholders and sector before we get to a cross roads where the lives of 40,000 woodlot owners, their families, their employees and their rural communities suffer undo consequences. I am sure the government did not intent to jeopardize woodlot owners and the omission of the protection of them and excluding them from the implementation of this Act was an unintended omission, so now is the time to make sure the Act reflects the intent i. e. this Act will not be enforced on private woodlot owners and moving forward their will be methods of funding to encourage their participation in formal biodiversity management zones under specific time periods and agreement of the specific owner without peril to the landowners who choose not to participate in these management zones.



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March 25, 2019

Re. Bill 116 – Biodiversity Act

On behalf of the Ecology Action Centre I'm please to appear before Law Amendments Committee today in support of Bill 116. EAC is pleased to see the government introduce a Biodiversity Act for Nova Scotia, and note that we are the first province or territory in Canada to do so. We hope that it will lead to much better conservation and stewardship outcomes on the ground to help arrest the precipitous decline of biodiversity in Nova Scotia.

Together with East Coast Environmental Law we have researched this topic in some depth and held work-shops with biodiversity conservation practitioners and have produced a report on what elements we feel should be included in an act to protect biodiversity, which we submit to the committee for your consideration. We are pleased to see many important elements reflected in this legislation but feel the act could be stronger and more ambitious in terms of specificity and the setting of targets and timelines. We therefore submit the following recommended improvements to the bill which we hope will be seen as friendly amendments to strengthen the act. In brief, we recommend:

1. Moving the bulk of the preamble section (the Whereases at the beginning) into a Purpose section, which is currently absent, in order to provide greater clarity of purpose and legal weight to the act.

2. Committing to producing an initial State of Biodiversity Report within two years rather than five. This corresponds with the current government's mandate and would ensure focused attention is not lost over time.

3. Adding: "The Minister shall develop goals, targets and objectives for biodiversity conservation by 2021".

4. Adding: "The Ministers shall identify critical biodiversity areas and develop an integrated and coordinated biodiversity plan by 2021."

A word on Clause 45 – We strongly support it. It reads:

"No person affected by this Act or the regulations is entitled to compensation for any restriction, encumbrance or use or the lack of use, of any nature or kind whatsoever, that may result or results from the enactment of this Act or the regulations."





Biodiversity is the life support system upon which we all rely and it's the source all our natural wealth. Preserving it is a shared societal responsibility and governments role is to regulate and set appropriate limits. Although the benefits of biodiversity use flow unevenly it is fair to say most everyone benefits in some way and so has an interest and a responsibility to ensuring the health of the ecosystem that supports it. This is doubly true of companies that extract significant wealth from biodiversity use. They to must do their share as well, without expectation of compensation from the public purse. As primary beneficiaries of biodiversity use they have a big incentive and a big responsibility to ensure the health of the ecosystems upon which they rely.

In conclusion we are looking forward to working collaboratively with government in the implementation of the Act, the formation of its regulations, and the processes that will flow from it. Fortunately, there is a knowledgeable and generous community of practitioners already working on biodiversity conservation in Nova Scotia that the province could engage with, and there are ways Nova Scotians can help biodiversity every day. We are therefore also happy to hear government will be looking at expanding the recently created Biodiversity Council, to include a wider diversity of perspectives, knowledge and expertise.

Sincerely yours,

Raymond Plourde Wilderness Coordinator Ecology Action Centre





A Biodiversity Act for Nova Scotia AN OVERVIEW AND KEY RECOMMENDATIONS

This document was developed by Ecology Action Centre and East Coast Environmental Law, with input from colleagues in the biodiversity conservation and environmental law communities

Released March 1, 2019





1.0 BACKGROUND

The United Nations Convention on Biological Diversity (CBD) serves as the foundation for biodiversity law and policy among its 196 parties. The Convention has been in force since 1993, with Canada as one of the first countries to ratify. A key objective of the CBD is the conservation of biological diversity. In response to the CBD, Canada prepared the *Canadian Biodiversity Strategy: Canada's Response to the Convention on Biological Diversity* in 1995,¹ followed by the 2016 publication of the 2020 *Biodiversity Goals and Targets for Canada.*²

The Environmental Goals and Sustainable Prosperity Act (EGSPA) was passed in Nova Scotia in 2007. Included among the 21 goals in the EGSPA was a commitment by the Province to adopt strategies to ensure the sustainability of the Province's natural capital in the areas of forestry, geological resources, parks, and biodiversity by the year 2010.³

To address the *EGSPA* strategy goal, the government of Nova Scotia engaged in a multiyear research and consultation process leading to publication of, <u>The Path We Share: A</u> <u>Natural Resources Strategy for Nova Scotia (2011-2020)</u> ('Natural Resources Strategy').⁴ Among many other biodiversity-related commitments, the Natural Resources Strategy includes a commitment to "implement new laws and update existing laws to support biodiversity."⁵ This Natural Resources Strategy commitment to action followed a key recommendation of the 2010 expert panel report to, "develop, adopt, and implement a biodiversity act."⁶

The 2016 five year progress report on the Natural Resources Strategy noted only that the department developed a legislation review plan and commenced reviews of several pieces of legislation in the winter of 2013. The progress report states that, "the review process is collaborative, engaging multiple stakeholders both internal and external to government."⁷

The McNeil Liberals committed to the creation of a Nova Scotia Biodiversity Act as part of their platform in the 2017 provincial election. The Premier's mandate letter to the Minister of Natural Resources (September 21, 2017) included "pass a Biodiversity Act" and "create a new Nova Scotia Biodiversity Council" as ministerial priorities.⁸

In January, 2018 the Department of Natural Resources (now Department of Lands and Forestry) held two invitation-only information sessions that included a slide presentation on the proposed Biodiversity Act. The sessions were short on detail on the proposed legislation or process for consultation. The presentation indicated, but did not confirm, that the Department would rely on the 2008 Natural Resources Strategy public consultations and 2013 consultations on legislation (referenced in the five year progress report) as the basis for public engagement on the proposed Act. Participants at the session clearly articulated that more information and engagement would be important in the development of the Act.⁹

On May 22, 2018 the Minister appointed four members to the Biodiversity Council. The appointees were Donna Hurlburt, Kate Sherren, Graham Forbes, and Peter Oram. Short

member biographies can be found on-line.¹⁰ The Council members were selected as experts to "help craft new legislation and recommend new actions to promote biodiversity in Nova Scotia.²¹ There is no public information available on the terms of reference for the Council, current status of the Council, meeting agendas or meeting minutes.

We anticipate that a Bill introducing the Biodiversity Act will be presented to the provincial legislature in spring 2019.

Ecology Action Centre and East Coast Environmental Law have been actively engaged in biodiversity-related work and issues for many years, and welcomed a commitment by government to create law and policy tools that will assist in biodiversity protection and conservation. In June 2018, our organizations completed a biodiversity legislative review and analysis that explored three overarching questions:

- 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 was to provide tools and information to our organizations and others advocating for comprehensive biodiversity legislation in Nova Scotia, and the research was used to inform this brief. The purpose of this brief is to facilitate and inform discussion on the process for and content of a provincial biodiversity law in Nova Scotia.

2.0 CONSULTATION PROCESS

In our opinion, a law that is meant to address biodiversity loss and preservation in Nova Scotia must be inclusive and ambitious. Without adequate consultation and involvement of stakeholders, Mi'kmaw people and communities, the general public, and those working on the ground with biodiversity, the Act will not be understood or supported in a way that will lead to effective implementation.

Public consultation on the Natural Resources Strategy as the primary basis for engagement on the Biodiversity Act is not satisfactory. Not only has almost a decade passed since those consultations, but the nature and scope of the proposed legislation requires a more in-depth understanding of biodiversity conservation, and thus requires a broader range of expertise. There are many groups, organizations and individuals working on biodiversity conservation, in both terrestrial and aquatic environments, that must be consulted to provide an accurate basis for the current state of the province's biodiversity and strategies for its conservation, protection and recovery.

Perhaps even more vital to the statute's development is meaningful Mi'kmaw involvement. Mi'kmaw people, Traditional Knowledge, communities, stories, songs, teachings and beliefs are rich sources of information and values that are essential to understanding biodiversity and how to protect and maintain biodiversity in Mi'kma'ki. We believe a Biodiversity Act that is not informed by Mi'kmaw knowledge and worldview would again fall short of these goals.

The diversity needed in the information collection and consultation phase should also be reflected in inclusive representation on the Biodiversity Council, and the process for selecting its members should be more transparent.

3.0 CONSIDERATIONS

Laws to protect the environment have evolved significantly over the past few decades. Early environmental law and policy focused on pollution abatement and control, along with basic environmental impact assessment processes for large, resource intensive projects. In more recent years, the law has been used increasingly to tackle complex and integrated environmental challenges including nature and wildlife conservation.

"Given the development and population pressures on both terrestrial and marine environments, there is an urgent need for improved legal frameworks for biodiversity conservation planning at the international, regional and national levels."¹²

Despite a growing consensus among experts that biodiversity management regimes require careful and systematic planning that depends on a comprehensive framework of laws that define procedures, responsibilities and obligations, there are few examples of provincial or state biodiversity legislation to draw upon for the development of a Nova Scotia Biodiversity Act.¹³ There is no federal or provincial biodiversity legislation in Canada.

4.0 KEY ELEMENTS OF AN ACT

The CBD and Canada's Biodiversity Strategy provide core principles, goals and targets that can be reflected in provincial law, including the five strategic goals included in the Aichi Targets:¹⁴

٠	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.

Based on our research, experience, and discussion with biodiversity conservation practitioners, we have determined that the following key elements should be included in a provincial Biodiversity Act:

- **Purpose Section:** A purpose section that recognizes the respect for all living things and the inherent value of biodiversity, and incorporates a vision for biodiversity protection in Nova Scotia in line with national and international commitments. Key principles to be included in the purpose section: public participation, transparency, accountability, precautionary approach, intergenerational equity, ecosystem management, recognition of Aboriginal Rights, and the value of the Mi'kmaw perspective.
- **Clarification on Application of the Act:** Statute extends to terrestrial and aquatic ecosystems.
- **Identify the Minister responsible** for the legislation and clarify roles and responsibilities of related departments.
- **Definitions:** including biological diversity or biodiversity that is in line with the CBD definitions and includes genetic diversity, species diversity and ecosystem diversity. Additional terms and definitions as required by the statute including genetic diversity, species diversity, ecosystem diversity, alien or invasive species, ecological community and the Mi'kmaw principle of *netukulimk* or *Msit No'kmaq*.
- A Biodiversity Council that is open and transparent, led by the responsible Ministers and includes other relevant Ministers, Indigenous organizations, NGOs, industry, and experts.
- **Time-bound goals:** Specific biodiversity outcomes, goals and targets with timelines that reflect Canada's biodiversity goals and targets.
- Annual state of biodiversity report on status of forest, wetland, aquatic, and coastal ecosystems, and specific species.
- Mandatory coordinated inventorying and monitoring necessary for assessing the state of biodiversity and evaluating progress toward meeting goals and outcomes.
- Identify critical biodiversity areas in the province and develop integrated and coordinated biodiversity planning. Incorporate climate change considerations into planning.
- Mandate development of industry sustainability plans that use an ecosystembased approach. Incorporate climate change considerations, and cumulative effects.
- **Biodiversity education** added to curricula, as per 2020 biodiversity targets for Canada.
- **Prohibitions** with associated penalties to ensure habitat and species protection, including addressing invasive species.
- Enforcement powers: Designated enforcement officers with authorities for inspection and enforcement tools.
- **Mandatory public information registry:** must be accessible online, must be maintained in a timely manner, must include specific items.

- Regulation making authority to address specific concerns such as invasive species.
- Include consequential amendments to related statutes such as the *Environmental Goals and Sustainable Prosperity Act* (new biodiversity goals), *Endangered Species Act* (broader habitat protection) or *Environment Act* (incorporating biodiversity assessments into EIA), etc.

It will also be important for government to **clarify the relationship of the Biodiversity Act** with other related statutes, such as:

- Agriculture Marshlands Conservation Act
- Agricultural Weed Control Act
- Beaches Act
- Conservation Easements Act
- Crown Lands Act
- Environment Act
- Fisheries and Coastal Resources Act
- Forests Act
- Mineral Resources Act
- Special Places Protection Act
- Wilderness Areas Protection Act
- Wildlife Act

5.0 CONCLUSION

There are two key concepts that should be taken from this document. First, these recommendations, although essential, are certainly non-exhaustive. There is substantial room for further knowledge development that could support innovative approaches to protect Nova Scotia's biodiversity through conservation agreements, accreditation, credits and offset schemes or conservations investment strategies. Second, the knowledge development essential to creating an effective Biodiversity Act for Nova Scotia, is impossible without the government changing its current consultation and engagement processes to better reflect the depth of knowledge available.

ENDNOTES

¹ Canadian Biodiversity Strategy: Canada's Response to the Convention on Biological Diversity, Biodiversity Convention Office Environment Canada, at p.2. Online: <u>https://biodivcanada.chm-cbd.net/sites/biodivcanada/files/2017-12/CBS_e.pdf</u>

² 2020 Biodiversity Goals & Targets for Canada, [Ottawa]: Environment and Climate Change Canada, c2016, at p.3. Online: <u>http://publications.gc.ca/collections/collection_2016/eccc/CW66-524-2016-eng.pdf</u>

³ Environmental Goals and Sustainable Prosperity Act, SNS 2007, c.7, s. 4(2)(y), as am.

⁴ The Path We Share: A Natural Resources Strategy for Nova Scotia (2011-2020).

⁵ The Path We Share: A Natural Resources Strategy for Nova Scotia (2011-2020) at 28.

⁶ 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 at 24. Online: <u>https://novascotia.ca/natr/strategy2010/pdf/phase2-reports/Biodiversity.pdf</u>

⁷ The Path We Share: A Natural Resources Strategy for Nova Scotia 2011-2020 Five-year Progress Report Appendix 2, at p. 4. On-line: <u>www.novascotia.ca/natr/strategy/pdf/PathWeShareBioDiversity.pdf</u>

⁸ Premier Stephen McNeil, Mandate Letter to Minister of Natural Resources (2017). Online: <u>www.novascotia.ca/exec_council/PDF/letters/2017MinDNR.pdf</u>

⁹ The authors, Karen McKendry and Lisa Mitchell, participated in an information session held on January 24, 2018.

¹⁰ Government of Nova Scotia, News Release, Biodiversity council members appointed (May 28, 2018). Online: <u>www.novascotia.ca/news/release/?id=20180522004</u>

¹¹ Ibid

¹² Boer, Ben. Chapter 20 Biodiversity Planning Law International and national at p. 531

¹³ Boer, Ben. Chapter 20 Biodiversity Planning Law International and national at p. 535.

¹⁴ COP 10 Decision X/2. Strategic Plan for Biodiversity 2011-2020. Online: <u>https://www.cbd.int/decision/cop/?id=12268</u>. Interpretation and list of targets, online: <u>https://www.cbd.int/sp/targets/</u>



Submission on Bill No. 116 – Biodiversity Act Law Amendments, 25 March 2019 Lisa Mitchell, Executive Director, East Coast Environmental Law Association

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

In 2017 we welcomed the commitment of government to create a provincial *Biodiversity Act*. As the first law of its kind in Canada and one of only a handful around the world we saw this as a unique and important opportunity.

Since attending the Department of Lands and Forestry information session in January 2018 we have worked with the Ecology Action Centre to conduct research and outreach to contribute to the creation of a good Biodiversity Act for Nova Scotia. This included a jurisdictional review and legal analysis of similar legislation and three *Biodiversity Act Conversations* to gather input on the key elements of such an Act. Through our research and conversations with legal experts and conservation practitioners we developed an overview and list of key elements of a Biodiversity Act.

We anticipated a public or stakeholder engagement process to be led by the Department prior to the introduction of the Bill, however, when it became clear that consultation would not take place, we shared our full Report and key recommendations with Department. We also made the information available to the public through our websites. The fact of the *Biodiversity Act* is positive, the process of engagement was not and there is much work left to be done. It is with that background that I appear before you today.

In our review of Bill No. 116, I see a strong preamble but a weak purpose section; a long list of ministerial powers that show promise but a very short list of ministerial duties; an incredibly robust enforcement program but little opportunity for engagement.

How the *Biodiversity Act* will facilitate conservation, sustainable use and equitable sharing of resources appears to rest with the Regulations. As Minister Iain Rankin stated in his well-informed presentation to the Legislature on March 15, 2019:

"To complete the tool kit, regulations supporting this new Biodiversity Act will be developed through consultations with the Mi'kmaq, conservation partners and all Nova Scotians."

As a public interest organization that specializes in environmental law, we looked forward to participating in these consultations. To better position the government and the public for the building of those important regulations and to more fully articulate the purpose of the Biodiversity Act, East Coast Environmental Law recommends the following 5 amendments to Bill No. 116.

Lisa Mitchell, Executive Director lisa@ecelaw.ca www.ecelaw.ca



Amendment #1: Preamble, Purpose and Principles of the Act

Explanation: A purpose section provides guidance to the public, regulators and the judiciary on the intent of the Act. The key environmental laws in Nova Scotia including the Nova Scotia *Environment Act* (1995), the *Endangered Species Act* (1998), the *Environmental Goals and Sustainable Prosperity Act* (2007) include a purpose section along with goals or principles. None of these statutes include a Preamble.

Suggested Amendments:

[Delete the first 7 paragraphs of the Preamble]

AND-WHEREAS a number of Government departments and legislation such as the Endangered Species Act, Environment Act, Wilderness Areas Protection Act and the Wildlife Act play key roles in the conservation and sustainable use of biodiversity in Nova Scotia but do not address all aspects of conservation and sustainable use;

AND WHEREAS Nova Scotia is committed to a complete, holistic, integrated legislative framework that provides for all aspects of the conservation and sustainable use of biodiversity;

THEREFORE be it enacted by the Governor and Assembly as follows:

[insert as subsection 2(2)]

This Act is based on the following principles

- (a) WHEREAS biodiversity is essential to healthy and productive ecosystems and is therefore essential to human well-being;
- (b) AND WHEREAS the conservation and sustainable use of biodiversity is interconnected with sustainable prosperity, a healthy environment, vibrant thriving communities and a strong competitive economy;
- (d) AND WHEREAS biodiversity and its sustainable uses are valued by Nova Scotians as important parts of the environment, heritage and economy of Nova Scotia;
- (e) AND WHEREAS an ecosystem approach that involves the integrated management of land, water and living organisms, promotes conservation and sustainable use of biodiversity and recognizes that humans are an integral part of ecosystems will strengthen land-use planning and natural resources management;
- (f) AND WHEREAS programs, policies and protective measures for biodiversity enable the Government of Nova Scotia to maintain and restore the diversity of genes, species and ecosystems, ensuring healthy ecosystems and the provision of ecosystem goods and services;
- (g) AND WHEREAS the conservation and sustainable use of biodiversity is a complex, crosscutting imperative that necessitates co-operation and collaboration among all sectors and is therefore a shared responsibility of all levels of government, non-government organizations, the private sector, the Mi'kmaq of Nova Scotia and all other Nova Scotians;
- (h) AND WHEREAS biodiversity must be managed for the benefit of present and future generations, which is in keeping with the Mi'kmaq concept of Netukulimk, defined by the Mi'kmaq as the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community by achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity or productivity of our environment;



Amendment # 2: Goals and Targets

Explanation: The provisions on Ministerial powers and duties are extensive in the Bill covering sections 6-14. Within these there are 37 powers and 3 duties. We recommend 1 more duty. Setting goals and targets is not only at the core of the Convention on Biological Diversity but is the primary means of moving toward improving our understanding of biodiversity and creating sustainable solutions.

Suggested Amendment: [amend subsection 7(h) and insert as 6A]

The Minister shall establish or adopt

(i) goals and targets for biodiversity and indicators of ecosystem health and integrity, and(ii) guidelines, objectives and standards for the conservation and sustainable use of biodiversity.

Amendment # 3: Sharing Information

Explanation: The Bill commits the Minister to sharing data relating to biodiversity. We recommend that this duty be extended slightly to include access to other information gathered under or relating to the Act. The particulars of what will be shared could be addressed in the Regulations.

Suggested Amendment: [amend subsection 14(1)]

The Minister shall establish mechanisms to share data relating to biodiversity <u>and for the purpose of</u> <u>facilitating access to documents relating to matters under this Act</u>.

Amendment # 4: State of Biodiversity Report

Explanation: Encouraging research and information sharing is an important priority in the area of biodiversity and we were pleased to see the commitment to a state of biodiversity report. Five years however, puts us long past the mandate of the current government. To demonstrate commitment, we recommend the timeframe for completion be shortened, recognizing that the focus of the report is within the Minister's control.

Suggested Amendment: [amend subsection 14(2)]

The Minister shall report to the public on the state of the Province's biodiversity within two five years of this Act coming into force and every three five years thereafter.

Amendment # 5: Public Review of Regulations

Explanation: The Minister and the Department have made public commitments to engage on the development of regulations. We applaud this and see it as a value to the Department and the public. We recommend that this commitment be reflected in the Act, as it is in section 26 of the *Environment Act*.

Suggested Amendment: [insert as section 47]

Any new regulations or any substantive amendment to the regulations becomes law only after the regulations or amendments, as the case may be, have been subjected to such public review as the Minister considers appropriate.

Monday, March 25, 2019 Presentation to: Standing Committee on Law Amendments

Presentation Given by: Andrew Fedora, CFT Vice President, Board of Directors, Forest Nova Scotia

Andrew Fedora, Certified Forest Technologist, with over 20 years of experience and as the past Executive Director with the Nova Scotia Federation of Woodland Owners, Andrew has a wealth of experience working with Nova Scotia Woodland Owners.



Forest Nova Scotia is the largest organization of forestry interests in Nova Scotia. With a membership of over 600 members of which 85% are private landowners. In-addition, we speak today with the support of the Canadian Association of Forest Owners (CAFO) who work together with 450,000 Individuals, families, farmers, companies and associations across Canada who own forest land. The land mass of Nova Scotia is predominantly forest land, with approximately 65% of this forest land being privately owned by over 30,000 different land owners.

Our members value biodiversity and make great efforts to protect biodiversity. So we must be clear that we have concerns with this Act as it defines broad brush ministerial authority, broad consultation rights, extensive punitive penalties, and no regulations yet defined, our membership is highly concerned this exposes our "rights" as private land owners. We will review some specific points that will clearly explain our concerns that we wish to have addressed and stress to you - the MLA's - on this committee that we urge you to listen to these concerns, as they are the concerns of private landowners in the very towns, villages and counties each of you represent. Bill 116 has moved to this committee very rapidly since the first reading, and now that the Act is available for our members, we have not been granted much time to communicate and engage our membership on its intent.

This Act allows the Minister to designate any Crown land as a "**biodiversity management zone**" (BMZ). To do the same with private lands requires the consent of the landowner. As we are representing private land owners today, we would like to make a few points to clarify some concerns we have regarding our "rights" as private land owners.

Point # 1.

The Act gives the Minister broad authority to implement activities, policies and programs for the conservation and sustainable use of biodiversity. However, it is unclear whether any such requirements apply solely to lands designated as a BMZ or to all lands in the Province.

Refer to definition in Act of "Land- all lands including water"

If it's the latter, it would impact management and decision making for private lands even if the landowner does not consent to a land designation as BMZ.

Point # 2.

Section 31 details a broad range of prohibited activity that is contrary to biodiversity; but again, it appears that this applies to activities on all lands (Crown and private) and not just lands designated as BMZ.

This threatens the "lively hood" and "rights" of private land owners who should have a choice with what happens on their lands.

Point # 3.

Section 45 states that any affected parties are not entitled to compensation for loss/costs arising from implementation of this Act. This is not consistent with other legislation, i.e. endangered species act (Section 7).

There should be overriding language to clarify this conflict between this Act and other legislation so it's clear which act will indeed govern Nova Scotians. It should be clear to land owners if this Act gives power to the minister to expropriate or restrict private land without compensation, or not. It is currently unclear.

Point # 4.

We also have major concern with government partnering with "any person" (Section 8) to investigate and enforce the Act. Our membership strongly disagrees with this as we are a stakeholder in the outcome of this Act. The government partnering that provides consultation, research, and advising the minister in building regulations needs to be more defined and not so broadly powered as currently defined.

Point # 5.

The penalties for offences have high thresholds when compared to other acts for both corporations and private landowners.

Reference - (i.e. up to \$500 thousand for first offence, and \$1 million for second offence (private landowners), up to \$1 million for first offence, and \$2 million for second offence (corporations). This is compared to similar penalties under the Endangered Species Act (up to \$1 million); the Forests Act (up to \$100,000); Wildlife Act (between \$2,000-\$5,000).

This Act has high stakes with its regulations yet to developed. The punitive exposure with unknown regulations is a major concern for our membership and CAFO membership.

Closing Argument:

As we have said our organizations fully support sustaining biodiversity for all Nova Scotians. As land owners we manage land for our "livelihoods" with a long-term sustainable view. Access to our own resources is fundamental right to the livelihood of rural Nova Scotia. We caution this committee that we feel the language defined in this Act is vague and incomplete. The ministerial power given in this Act is all encompassing and due to its broad unclear scope, we are going to lose our "rights" and "livelihoods" to work and manage our lands. We recommend language clarification on the points we brought forward and caution this committee to take more time to prevent unintended consequences of approving this Act as it written today. A carefully measured Act and subsequent regulation that does not overreach is required.

March 25, 2019

House of Assembly of Nova Scotia Office of the Legislative Counsel CIBC Building, Suite 802 1809 Barrington Street P.O. BOX 1116 Halifax, Nova Scotia B3J 2X1

To: Members of the Law Amendments Committee

Re: Bill No. 116 – **Biodiversity Act**

The Canadian Association of Forest Owners (CAFO) wish to express their full support for Forest Nova Scotia with respect to the concerns they have described to you in their submission.

Like forest owners in Nova Scotia, forest owners across Canada take the protection of biodiversity very seriously. The maintenance of biodiversity is an indicator of healthy and productive forest ecosystems which in turn translates into healthy and successful businesses for forest owners. Forest owners in Nova Scotia and across Canada take great pride in responsibly and sustainably managing all the resources on their land and recognize that "good" forest management practices and high biodiversity values go hand in hand.

These ongoing efforts of forest owners to maintain biodiversity must be considered in the context of the proposed *Biodiversity Act*. The Act, as proposed, provides extensive and overreaching ministerial authority, very broad consultation rights, punitive penalties, and generally appears to disregard private landowner rights. CAFO also supports Forest Nova Scotia's concern that this legislation has moved very rapidly through legislative process and has not allowed concerned owners of forest land to fully consider and respond to the far reaching implications of this Act. Without that important input, there could be unintended consequences resulting from this Act that the committee would not be aware of.

Forest Owners are very concerned about the language in Section 8 that states that "the Minister may enter into an agreement with **any person**, (emphasis added)"... "for any purpose related to this Act or the regulations" and includes "the enforcement of laws" and "the conduct of biodiversity or ecological investigations". This could allow anyone who has some unrelated issue with a forest owner to bring forward an enforcement action that is completely unrelated to the protection of biodiversity.

A second major concern, also raised by Forest Nova Scotia, is that compensation is not available (GENERAL section para 45). This language is inconsistent with other legislation and fails to recognize the efforts already being made, with real costs and foregone revenue to forest owners, to protect biodiversity. The additional requirements being contemplated by this Act will further add to those costs and the legislation must provide compensation to owners for providing a public good at the expense of the individual owner. To do otherwise could result in further unintended consequences, where land owners may not share information about

biodiversity values on their land for fear that it could result in further impacts on their livelihood.

With respect to the recognition of landowner rights, CAFO fully supports the points raised by Forest Nova Scotia that a broad range of prohibited activities appear to apply on all lands (Crown and private). This broad language could not only threaten the success of private owners businesses but also infringes on their rights as owners and sustainable managers of private forest land.

Forest Nova Scotia has raised the issue of overly punitive penalties and CAFO fully agrees with their arguments. It has been CAFO's experience that regulators, working in cooperation with forest owners, will generate far better results for biodiversity than emphasizing penalties and enforcement.

The Canadian Association of Forest Owners provides their full support for Forest Nova Scotia and requests that the Members of the Law Amendments Committee fully consider the important issues they have raised.

Sincerely,

Christopher Lee, R.P.F. Managing Director Canadian Association of Forest Owners SAINT MARY'S UNIVERSITY SINCE 1802 ENVIRONMENTAL SCIENCE

3

Chinese Mystery Snail Project

mystery.snail.reports@gmail.com ap.smu.ca/~lcampbel/CMS.html

smu.ca

923 Robie Street Halifax NS Canada B3H 3C3



better manage the spread of this invasive species! waterbodies in Atlantic Canada so that we can where CMS will be. Therefore, we need the public's of waterbodies with known CMS presence and help to find where CMS are. Help us monitor However, no computer model can perfectly predict waterbodies to see where CMS are likely to occur. applying those predictive characteristics to other habitat characteristics (e.g. maximum lake depth) Habitat suitability modeling is the process of taking collected from helpful citizens. suitability modeling, lake surveys, and reports determine where Chinese mystery snails (CMS) are located throughout the Maritimes through habitat invasive species. The aim of the project is to thesis project on Chinese mystery snails, an aquatic The Chinese Mystery Snail Project is a graduate Snail Project? What is the Chinese Mystery Photograph by: Royal Ontario Museum individuals wishing to establish a fresh food source. for males

What are Chinese Mystery snails?

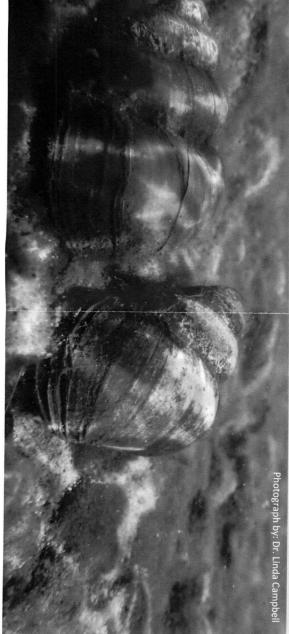
concentrated in the South-Eastern portion of the country. America and Southern Canada. In Canada, CMS are mostly market and since have spread across the United States of first came to North America in the 1890s via the Asian food are a mollusc species that is native to Eastern Asia. They Chinese mystery snails (CMS), Cipangopaludina chinensis

brood. The life expectancy is 5 years for females and 3 years and can survive up to 4 weeks of air exposure (i.e. remaining outside of water). Females give birth to live, fully CMS can tolerate a range of water temperatures (0-45°C) -developed young and can have over 100 offspring per

purposefully to waterbodies by aquarium releases and by recreational fishermen. CMS may be introduced accidently via boater movements and tranfer between lakes These snails are likely spreading throughout North America

Why are Chinese Mystery snails Invasive?

is important to limit their spread as much as possible. a high probability of spreading through connected water systems and can be very difficult to get rid of. Therefore, it lake environments and nutrient cycling in lakes. CMS have differing conditions. This can lead to possible alteration of can out-compete native snails and mussels for food in irrigation systems. CMS can reproduce very rapidly and and screens on intake pipes which negatively affect native species. CMS have been known to clog drain pipes door shells, they are more resistant to predation than than native snail species in Nova Scotia. Due to their trap very resistant to heat and chemicals. CMS are much larger methods are usually not effective because those snails are Chemical management strategies and other snail control Chinese mystery snails (CMS) are not easily eradicated.



Bill 116 : Law Amendments Meeting

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Meeting Location: Committee Room at One Government Place (1713 Barrington St.) Presentation Time: 16:00

Hello, thank you so much for having me here today and for allowing me to present. My name is Sarah Kingsbury. I am a graduate student at Saint Mary's University studying aquatic invasive species.

I am so pleased to get the opportunity to discuss Bill 116. I think that the Province has taken a very positive step forward by creating a *Biodiversity Act*, but I believe that we need to be mindful in the way things are worded and in the implementation of Bill 116.

Today, I want to talk about invasive species. Invasive species are a serious threat to biodiversity which is why the one line in the Bill 116 for invasive species under section 46(1), "46(1) The Governor in Council may make regulations: (o) respecting the prevention and management of invasive or alien species" may not be sufficient.

Who knows what this is (holding up a Chinese mystery snail shell)?

This is a Chinese mystery snail shell. You may have seen it in lakes around Nova Scotia, you could have walked by it one thousand times and never have known that this is an aquatic invasive species.

This snail entered Nova Scotian waters without anyone being aware of its potential risk. The snails likely continued to spread throughout Nova Scotian lakes through illegal aquarium dumping and by accidental boater transfers. The extent and the impact of this snail remains unknown.

My thesis project is based upon creating a computer model that merges habitat suitability modeling, public education, reports of Chinese mystery snail occurrence from helpful citizens, and lake surveys to predict where Chinese mystery snails have become established throughout the Maritimes. My supervisor, DR. Linda Campbell, is here with me to support my presentation to the Law Amendments Committee.

The Chinese mystery snail is not the only species that entered Nova Scotia undetected. This is also happening with many invasive species, both aquatic and terrestrial with potential harmful impacts.

Invasive species are considered the second greatest cause of species endangerment and extinction. The Department of Fisheries and Oceans Canada define aquatic invasive species as non-indigenous species that may threaten natural biodiversity through competition, predation, degradation of natural habitat, or destruction of invaded ecosystems.

Invasive species can have huge financial implications too. Aquatic invasive species have an estimated \$128 billion to \$131 billion US dollar negative impact on the US economy annually.

So, how can we prevent the introduction and spread of invasive species?

First of all, Nova Scotia needs to establish and support a invasive species network to monitor threats of potential and current invasive species. There are already excellent monitoring programs in other provinces and states. We can use the information from other areas to develop predictive models and risk assessments.

Also, the invasive species network can assess potential presence of invasive species already in Nova Scotia and search for those.

Education and training is important. Nova Scotians need to be aware of the risk invasive species present, how to identify the most important invasive species and how to prevent their spread.

Let's use the Chinese mystery snails as a case study for invasive species.

Chinese mystery snails are aquatic freshwater snails native to central Asia. It was first introduced to North America in the 1890s via the Asian food markets and, since, has spread across North America. In Canada, CMS have been documented in British Columbia, Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador. Without monitoring we have no idea which lake or which system have been impacted by this snail species.

It is possible for female Chinese mystery snails to have more than 100 offspring per year, and so it is possible to establish a population of Chinese mystery snails from <u>one</u> fertile female. Once in a new habitat, invasive species can experience a population boom which leads to the displacement of native species.

Chinese mystery snails can alter the native microbe and algal communities important for the health of our freshwater lakes. Chinese mystery snails can alter nitrogen and phosphorous water concentrations which leads to concerns for toxic algae blooms in our lakes.

Again, the Chinese mystery snail is only <u>one</u> example of an invasive species. Nova Scotia has dozens of invasive species, most of which are not being adequately monitored. Without proper funding, monitoring programs, public education programs, and governmental regulation/oversight, Nova Scotia will continue to be a hot-bed for invasives.

Currently, our situation is poor. There is no consistent sources of training, funding or education which we can point to and say, "this is for invasive species research or for monitoring the threat and spread of invasive species."

The funding that exists is often tied to rare or endangered species, but waiting for an invasive species to negatively impact an endangered species before funding the research and management needed to control the species can be too little too late.

Nova Scotia needs a more robust definition and mandate for action. That is why I would ask that Bill 116 be amended to specifically expand on the definition of aquatic and terrestrial invasive species, must include a statement on the urgency for oversight and monitoring programs to be established, and to support education, monitoring and research programs to assess the threats and impacts of invasive species in our beautiful province.

Thank you

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Bibliography:

"Aquatic Invasive Species." Chinese Mystery Snail. Kemongsa, 23 Mar. 1993. Web. 1 June 2011. Retrieved from <u>www.in.gov/dnr/files/CHINESE_MYSTERY_SNAIL.pdf</u>

British Columbia Ministry of Environment, Lands and Parks (2000). Freshwater Molluscs. BC Conservation Data Centre. <u>https://www2.gov.bc.ca/assets/gov/environment/plants</u> animals-and ecosystems/species-ecosystems-at-risk/brochures/freshwater_mollusc.pdf.

Burnett, J.L., Pope, K.L., Wong, A., Allen, C.R., Haak, D., Stephen, B.J., and Uden, D.R. (2018). Thermal tolerance limits of the Chinese mystery snail (*Bellamya chinensis*): Implications for management. *Nebraska Cooperative Fish & Wildlife Research Unit-Staff Publications*. 254. "Canada Population. (2018-09-17). Retrieved 2018-11-02, from http://worldpopulationreview.com/countries/canada/.

Clarke, A.H. (1981). The freshwater molluscs of Canada. National Museum of Science. Ottawa: Canada. p. 38

Collas, F.P.L., Breedveld, S.K.D., Matthews, J., van der Velde, G., and Leuven, R.S.E.W. (2017). Invasion biology and risk assessment of the recently introduced Chinese mystery snail Bellamya (Cipangopaludina) chinensis (gray, 1834), in the Rhine and Meuse River basins in Western Europe. Aquatic Invasions 12(3).p. 275-286.

College SImply (2018). College Search in Wisconsin. Accessed 2 Nov 2018 from <u>https://www.collegesimply.com/colleges/search/?state=wisconsin</u>.

Cui, J., Shan, B., Tang, W. (2012). Effect of periphyton community structure on heavy metal accumulation in mystery snail (Cipangopaludina chinensis): A case study of the bai River, China. Journal of Environmental Sciences 24(10).p. 1723-1730.

Davis, E., Caffrey, J.M., Coughlan, N.E., Dick, J.T.A., Lucy, F.E. (2018). Communications, outreach and citizen science: spreading the word about invasive alien species. *Management of Biological Invasions* 9(4).p. 515-525.

EINFO (2018). Get to Know Ontario's Universities. Accessed 2 Nov 2018 from <u>http://www.electronicinfo.ca/universities</u>.

Fisheries and Oceans Canada (2019). Aquatic invasive species. Accessed 26 Feb 2019 from http://www.dfo-mpo.gc.ca/species-especes/ais-eae/index-eng.html.

Haak, D. (2015). Bioenergetics and habitat suitability models for the Chinese mystery snail (*Bellamya chinensis*). University of Nebraska-Lincoln Dissertations & These in Natural Resources.<u>https://digitalcommons.unl.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=108&context=natresdiss</u>.

Haak, D.M., Fath, B.D., Forbes, V.E., Martin, D.R., and Pope, K.L. (2017). Coupling ecological and social network models to assess "transmission" and "contagion" of an aquatic invasive species. Journal of Environmental Management 190.p. 243-251.

Haak, D.M., Stephen, B.J., Kill, R.A., Smeenk, N.A., Allen, C.R., and Pope, K.L. (2014). Toxicity of copper sulfate and rotenone to Chinese mystery snail (Bellamya chinensis). Management of Biological Invasions 5 (4).p. 371-375.

Harried, B., Fischer, K., Perez, K.E., and Sandland, G.J. (2015). Assessing infection patterns in Chinese mystery snails from Wisconsin, USA using field and laboratory approaches. *Aquatic Invasions* 10 (2).p.169-175.

Havel, J.E. (2011). Survival of the exotic Chinese mystery snail (Cipangopaludina chinensis malleata) during air exposure and implications for overland dispersal by boats. *Hydrobiologia* 668.p. 195-202.

Johnson, P.T.J., Olden, J.D., Solomon, C.T., and Vander Zanden, M.J. (2009). Interactions among invaders: community and ecosystem effects of multiple invasive species in an experimental aquatic system. *Oecologia International Association for Ecology* 159.p.161-170.

Jokinen, E.J. (1982). *Cipangopaludina chinensis* (Gastropoda: Viviparidae) in North America, Review and Update. *The Nautilus* 96(3).p. 89-95.

Karatayev, A.Y., Burlakova, L.E., Karatayev, V.A., and Padilla, D.K. (2009). Intorduction, distribution, spread, and impacts of exotic freshwater gastropods in Texas. Hydrobiologia 619 (1).p. 181-194.

Kipp, R.M., A.J. Benson, J. Larson, and A. Fusaro, 2018, *Cipangopaludina chinensis* (Gray, 1834): U.S. Geological Survey, Nonindigenous Aquatic Species Database, Gainesville, FL, https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=1044, Revision Date: 5/18/2017, Access Date: 11/2/2018

Köhler, F., Do, V. & Jinghua, F. 2012. *Cipangopaludina chinensis*. *The IUCN Red List of Threatened Species*2012: e.T166265A1124988. <u>http://dx.doi.org/10.2305/IUCN.UK.2012</u> 1.RLTS.T166265A1124988.en. Downloaded on 07 November 2018.

Latzka, A.W., Crawford, J.T., Koblings, A.S., Caldeira, Y., Hilts, E., and Vander Zanden, M.J. (2015). Representing calcification in distribution models for aquatic invasive species: surrogates perform as well as CaCO3 saturation state. Hydrobiologia 746(1).p. 197-208.

Matthews, J., Collas, F.P.L., de Hoop, L., van der Velde, G., and Leuven, R.S.E.W. (2017). Management approaches for the alien Chinese mystery snail (Bellamya chinensis). Radboud University Institute for Water and Wetland Research.

McAlpine, D.F., Lepitzki, D.A.W., Schueler, F.W., McAlpine, F.J.T., Hebda, A., Forsyth, R.G., Nicolai, A., Maunder, J.E., and Noseworthy, R.G. (2016). Occurrence of the Chinese mystery snail, Cipangopaludina chinensis (Gray, 1834) (Mollusca: Viviparidae) in the Saint John River system, New Brunswick, with review of status in Atlantic Canada. BioInvasions Records 5(3).p. 149-154.

McCann, M.J. (2014). Population dynamics of the non-native freshwater gastropod, Cipangopaludina chinensis (Viviparidae): a capture-mark-recapture study. Hydrobiologia 730(1).p. 17-27.

Minnesota Sea Grant (2016). Mystery Snails (Chinese, Japanese and Banded). Accessed 7 November 2018 from <u>http://www.seagrant.umn.edu/ais/mysterysnail</u>. Olden, J.D., Ray, L., Mims, M.C., and Horner-Devine, M.C. (2013). Filtration rates of the non native Chinese mystery snail (Bellamya chinensis) and potential impacts on microbial communities. *Limnetica* 32(1).p. 107-120.

Papes, M., Havel, J.E., and Vander Zanden, M.J. (2016). Using Maximum entropy to predict the potential distribution of an invasive freshwater snail. Freshwater Biology 61.p. 457-471.

Pejchar, L., and Mooney, H.A. (2009). Invasive species, ecosystem services and human well-being. *Trends in Ecology and Evolution* 24(9).p. 497-504.

Rothlisberger, J.D., Chadderton, W.L., McNulty, J., and Lodge, D.M. (2010). INTRODUCED SPECIES Aquatic Invasive Species Transport via Trailered Boats: What Is Being Moved, Who Is Moving It, and What Can Be Done. Fisheries 35(3).p. 121-132.

Shaw, J.L.A., Weyrich, L., and Cooper, A. (2016). Using environmental (e)DNA sequencing for aquatic biodiversity surveys: a beginner's guide. *Marine and Freshwater Research*.

Sohn, W-M., Na, B.K. (2017). Echinostoma macrorchis (Digenea: Echinostomatidae): Metacercariae in Cipangopaludina chinensis malleata Snails and Adults from Experimental Rats in Korea. Parasitology 55(5).p. 541-548.

Stephen, B.J., Allen, C.R., Chaine, N.M., Fricke, K.A., Haak, D.M., Hellman, M.L., Kill, R.A., Nemec, K.T., Pope, K.L., Smeenk, N.A., Uden, D.R., Unstad, K.M., VanderHam, A.E., and Wong, A. (2013). Fecundity of the Chinese myserty snail in a Nebraska reservoir. *Journal of Freshwater Ecology* 28 (3).p.439-444.

Sura, S.A., and Mahon, H.K. (2011). Effects of Competition and Predation on the Feeding Rate of the Freshwater Snail, Helisoma trivolvis. American Midland Naturalist 166(2).p. 358 -368.

Twardochleb, L.A., and Olden, J.D. (2016). Non-native Chinese mystery snail (Bellamya chinensis) supports consumers in urban lake food webs. Ecosphere 7(5)

Van den Neucker, T., Schildermans, T., and Scheers, K. (2017). The invasive Chinese mystery snail Bellamya chinensis (Gastropoda: Viviparidae) expands its European range to Belgium. Knowledge & Management of Aquatic Ecosystems 418(8).p. 1-3.

Waltz, J. (2008). Chinese Mystery Snail (Bellamya chinensis) Review. Accessed 11 Sept 2018 from <u>http://sheltontrails.blogspot.com/2008/08/black-rock-state-park.html</u>

Questions and Answers:

c v se

Other government led programs for invasive species:

Ontario's Invading Species Awareness Program

Invasive Species Council of Manitoba (which have a 5 year strategic plan) British Columbia: government led working groups (the Invasive Species Working Group), programs (Invasive Species Plant Program), and framework (Invasive Alien Species Framework for BC: Identifying and Assessing threats to biodiversity). Also, in BC the BC Conservation Data Centre has a list of invasives which are tracked and monitored. Nova Scotia has the Invasive Species Alliance of Nova Scotia.

Other invasive species already established in Nova Scotia:

-green crab

-Chain pickerel

-smallmouth bass

Invasive Species that will likely invade Nova Scotia soon:

-Chinese mitten crab

-zebra mussels

-silver carp



St. Margaret's Bay Stewardship Association

March 25, 2019

Re. Bill 116 – Biodiversity Act

On behalf of the St. Margaret's Bay Stewardship Association (SMBSA) and Woodens River Watershed Environmental Organization (WRWEO), we are grateful for the opportunity to appear before Law Amendments Committee this afternoon. We are pleased to see the government introduce an Act that aims to protect and enshrine the protection of Biodiversity into legislation. Both the SMBSA and WRWEO work hard to ensure the ecological integrity of our catchment areas and endorse Bill 116. As we are in the midst of the decline of ecological integrity in our province, and around the world in general, an Act that addresses these issues is perhaps more needed than ever before.

We are very pleased to see many important aspects already within the bill but submit to the Committee our recommendations to ensure the best, and strongest, Act is produced in order to meet the intended outcomes. Through our years of experience and research on topics relating to ecology and biology we have settled on the following recommendations which we would like to see incorporated into the act:

- 1. The initial State of Biodiversity Report should be completed as soon as possible. We believe that a two year period for this initiative is reasonable and that five years, with many of our Species at Risk in precipitous decline, is too long to wait. This Act requires a strong baseline of comparison and therefore one must be established as soon as possible. After the establishment of the initial State of Biodiversity Report we believe that five years for subsequent Reports is appropriate. For example, the preamble touches on Mi'kmaq values and concepts which we believe should be moved to the purpose section.
- 2. Much of the preamble section should be moved into a Purpose section, increasing clarity and legal weight.
- 3. The addition of the following language "The Minister shall develop goals, targets and objectives for biodiversity conservation by 2021".
- 4. The addition of the following language "The Minister shall identify critical biodiversity areas and develop an integrated and coordinated biodiversity conservation plan by 2021."



St. Margaret's Bay Stewardship Association

- 5. A clarification of the language within clause #32 "No person shall interfere with lawful and sustainable use of biodiversity by another person." Our concern is that if this clause were to remain as is it could be used to crack down on lawful demonstrations, or protests.
- 6. In general, we would like to see a greater emphasis on the balancing of social and heritage values that are enshrined in our communities across the province as the integrity of biodiversity values are often inseparable to these values.
- 7. Although there are many clauses that we would want to specifically endorse, we would like to strongly support Clause 45 which reads:
 - a. "No person affected by this Act or the regulations is entitled to compensation for any restriction, encumbrance or use or the lack of use, of any nature or kind whatsoever, that may result or results from the enactment of this Act or the regulations."

As biodiversity must be considered a public interest value. It is clear that we all rely upon it for our health, ecosystem services, and quality of life as well as those who rely upon its integrity for their livelihoods. For those in the latter it is essential that adequate regulations are determined in order to ensure the longterm sustainability of both these industries and the biodiversity upon which they depend. Therefore, there should be no expectation of financial compensation from public funds.



Jamie Simpson, BSc(H), MScF, JD Barrister & Solicitor 803 Purcells Cove Rd Fergusons Cove, NS B3V 1G3 902 817 1737 / jamie@juniperlaw.ca

To: Nova Scotia Law Amendments Committee
Date: March 25, 2019
Re: Bill 116: Biodiversity Act

Dear Committee Members:

My name is Jamie Simpson; I'm a lawyer and a forester and I'm pleased to appear this afternoon on behalf of the Healthy Forests Coalition. The Healthy Forests Coalition is not a registered society but rather a collection of people from across Nova Scotia who are committed to healthy forests, healthy communities and sustainable forestry in our province.

We support the Bill in principle, but urge the Department to add substance to the Bill. We strongly suggest that too much of the meaningful content of the Act is left to the Minister's discretion and regulations to be created at an unknown time in the future through an unknown process. The current Minister has indicated during the first reading of this Bill his dedication to stewardship of our Province's biodiversity, but subsequent Ministers may not be so inclined.

Thus, we recommend changing a few "Minister may" provisions to "Minister shall" provisions. Specifically, Section 7 should require the Minister to undertake the provisions stated in subsections (a), (b), and (h). That is, the Minister <u>shall</u> promote the conservation and sustainable use of biodiversity; the Minister <u>shall</u> undertake, promote or recommend measures to allow for public co-operation in the conservation and sustainable use of biodiversity; and the Minister <u>shall</u> establish or adopt (i) goals and targets for biodiversity and indicators of ecosystem health and integrity, and (ii) guidelines, objectives and standards for the conservation and sustainable use of biodiversity. Left at "Minister may," we may well never see these important outcomes of the Act.

We urge similar changes for sections 9(d) and 9(h): The Minister <u>shall</u> cause studies to be undertaken and cause research to be carried out to (d) establish priorities for the conservation and sustainable use of biodiversity based on consistent evaluation protocols for biodiversity throughout the Province; and (h) establish priorities and methods for restoring degraded or impaired biodiversity.

With respect to section 14(2), we suggest that the timeline for creating the first state of the Province's biodiversity be reduced from 5 years to a year to two at the most. Otherwise, this priority risks getting shifted to a back burner when a new Minister or new government comes to power.

With respect to section 32: No person shall interfere with the lawful and sustainable use of biodiversity by another person. I recommend narrowing this offence to apply only to uses of biodiversity as enabled under this Act or its regulations; otherwise, this provision could lead to unintended and negative consequences.

Finally, we suggest that section 45 is an appropriate and important section. The Department is within its rights to regulate the use of biodiversity in the Province and is under no responsibility to provide compensation with regards to this regulatory responsibility.

March 26, 2019

RE: Bill 116 - Biodiversity Act

Dear Committee Members:

Thank you for the opportunity to provide written comment further to my presentation to Law Amendments Committee on Monday March 25 2019. As Vice Chair of the Mersey Tobeatic Research Institute, I represented the interests of our board and members with respect to improving the conservation of biodiversity and sustainable use of natural resources. I also note that I am a faculty at NSCC, and father of three children and have a direct interest in seeing strong and effective law on this important topic.

I would like to highlight suggestions within 3 main themes that are largely absent in the bill: Restoration; Research; and Reporting.

Restoration

One of the emerging aspects of biodiversity conservation is the repair or restoration of habitats, ecosystems or species

. The bill is largely silent on restoration, and this should be changed by adding a new clause to section 13 which discusses inventory and assessment. Section 13(2) would directly address restoration capturing language to pilot, establish and maintain restoration efforts for species, habitats or ecosystems that have been heavily affected or where significant biodiversity has been lost. Adding this ability to the powers of the Minister could lead to significant improvement and there are numerous Crown lands to use as pilot sites, as well as species to recover and/or re-establish.

Research

Section 15 outlines how the Minister may issue permits, and there is one major omission. Add a research license program to the bill so that a co-ordinated program for encouraging, approving and organizing research can be established. The committee need not look further than the Wilderness Areas Protection Act for a model program . Ideally this inventory or registry could be accessible to DLF in its decision making as well as to other departments, researchers, and the public . Revenue to sponsor and support research should be derived from fines and penalties of the bill. By establishing a dedicated Biodiversity Research Fund from fines and penalties that result from enforcement of the bill, the legislation can self-fund a strong research and monitoring program.

Reporting

Section 14 outlines limited provisions on data sharing, and providing a state of biodiversity report every 5 years. It appears that the bill involves the Minister establishing new mechanism to share data, where there is already an excellent system of data sharing across the Atlantic region provided by the Atlantic Canada Conservation Data Centre (14(1)). On the matter of public reporting, it could be more frequent and the first state of biodiversity should be released within 2 years, not 5 years of this new Act being proclaimed (14(2)). In addition, a new clause (14(3)) could be added to improve the public engagement with reporting, to effectively benefit from "citizen science" and allow for the public, NGOs, woodlot owners, industry and others to report biodiversity indicators, events or occurrences to government

Thank you for the opportunity to present these suggestions. Please consider them in amending the bill to reflect the input you have received.

Sincerely,

.

Leif Helmer

Vice Chair, Mersey Tobeatic Research Institute