



# **ATLANTIC CANADA BLUE CARBON LEGISLATIVE & POLICY REVIEW**

East Coast Environmental Law  
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# EXECUTIVE SUMMARY

This document is the product of legal research and analysis of laws and policies that enable the management and protection of coastal ecosystems within Atlantic Canada. Laws and policies from the four Atlantic provinces – New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island – as well as the federal government were reviewed. The research was driven by two questions:

- 1) What legal and policy tools enable the stewardship and protection of blue carbon ecosystems in Atlantic Canada?
- 2) Where do gaps, challenges, and opportunities (if any) exist to effectively steward and protect blue carbon ecosystems in Atlantic Canada?

Blue carbon is the carbon that is sequestered by certain coastal ecosystems (i.e., salt marshes or seagrass meadows in Atlantic Canada). Blue carbon ecosystems are incredibly efficient in capturing and storing carbon compared to terrestrial ecosystems and hold great potential for efforts to limit, reduce, and mitigate the effects of climate change. However, blue carbon ecosystems, and the blue carbon sequestration ecological function that they serve, are not well recognized in the law and policy of any of the Atlantic provinces.

Many of the environmental laws and policies in the Atlantic provinces that currently provide avenues of protection to blue carbon ecosystems were not specifically designed to recognize the inherent value of these ecosystems. Compounding this gap, where carbon sequestration is recognized as a wetland function (it is not mentioned as a function of seagrass meadows in any provincial law or policy), there is no distinction between the greater ability of marine ecosystems to sequester carbon in comparison to the ability of terrestrial ecosystems to sequester carbon.

There are many provincial laws in the Atlantic provinces that provide general opportunities and mechanisms to conserve, manage, or protect habitats and ecosystems, which could be used to steward blue carbon ecosystems. These protections include provincial parks, nature or ecological reserves, wilderness areas, protected beaches, and protected areas. However, the laws that provide these protections are generally focused on (have objectives to conserve) “threatened”, “unique”, “rare”, “endangered”, “uncommon”, or “representative” species, habitats, or ecosystems. For example, the New Brunswick *Protected Natural Areas Act* can be used to protect “unique” or “ecologically sensitive areas”, the Newfoundland and Labrador *Wilderness and Ecological Reserves Act* is designed to set aside areas that contain “representative” or “unique” ecosystems, the Nova Scotia *Wilderness Areas Protection Act* is meant to protect “unique”, “rare”, and “vulnerable” natural features, and the Prince Edward Island *Natural Areas Protection Act* is used to preserve lands that contain “habitat of rare, endangered, or uncommon plants and animals”. The difficulty with stewarding blue carbon ecosystems using these conservation measures is that they may not fit into the common understanding or definition of these categories. And, because provincial policies currently do not explicitly recognize the value of blue carbon ecosystems, and their ability to sequester blue carbon, they are not a conservation priority.

Another issue with respect to the ability to steward and protect blue carbon ecosystems using current laws and policies in the Atlantic provinces is that there is rarely a coordinated approach to a) assessing individual and cumulative impacts on blue carbon ecosystems, whether they are salt marshes or coastal areas that include seagrass meadow, from development and human activities, and b) setting coordinated conservation, stewardship, and protection priorities and management plans for existing and potential protected areas. In many cases multiple government departments or agencies are responsible for different legal protections and there is often no direct link or connection between decision-making regimes and the provincial policies that are meant to guide them.

Of the two types of blue carbon ecosystems in Atlantic Canada, salt marshes, as wetlands, are better protected by existing law and policy. In most Atlantic provinces, altering or disturbing wetlands is prohibited without government approval. Furthermore, all the provinces except Prince Edward Island require a project that will impact two or more hectares of wetland to undergo a provincial environmental assessment or environmental impact assessment. These processes are guided by wetland conservation policies.

Provincial wetland conservation policies (in Newfoundland, a development policy) dictate how government decision-makers should or can act within legislated processes; however, they provide a fair amount of discretion to decision-makers even where conservation of wetlands is a priority. In some provinces, wetland protection is limited by an approach to conservation that is drawn from the *Federal Wetlands Policy*. The federal policy takes a three-tiered approach to wetlands conservation: avoidance of wetlands, when possible; minimization of impacts when avoidance is not possible; and compensation for losses of existing wetland. The primary challenge with respect to the third option (compensation) is that salt marshes are not readily or quickly compensable, because the carbon dioxide that is stored in the subsoil of these ecosystems accumulates over decades or centuries, and when it is disturbed the stored carbon can be permanently released.

Seagrass meadows are offered less explicit and robust protection by the Atlantic provinces. In most cases, there are no direct protections for seagrass meadows; instead, seagrass meadows would need to be protected indirectly using “coastal” protection mechanisms or provincial species and habitat protection mechanisms. For example, in New Brunswick, under the *Clean Environment Act*, the responsible minister can protect a coastal area, which is defined as the environment between the low water mark and one kilometre to the landward side of the high-water mark. Similar protections are available in Newfoundland and Labrador for shore water zones and will be available soon in Nova Scotia for the coastal land within a designated Coastal Protection Zone. Only Nova Scotia has specific protections for seagrass meadow species; its *Rockweed Harvesting Regulation* regulates rockweed harvesting activities and allows the responsible minister to designate areas where harvesting cannot take place.

Seagrass meadows in Atlantic Canada will likely be afforded more robust protections under federal law and policy. In part, this is because provincial jurisdiction (and provincial crown land) ends near the low water mark. This means that the scope of provincial legislation is limited to the nearshore coastal areas, making it difficult to protect large seagrass meadows. Federal jurisdiction over fisheries under the *Fisheries Act* affords Fisheries and Oceans Canada great breadth and scope for protecting fish and fish habitat. One mechanism under the *Fisheries Act* that has potential to provide comprehensive protection to the entire coastal interface, including both seagrass meadows and salt marshes, is the ecologically sensitive area designation. Although there are currently no ecologically sensitive areas established under the *Fisheries Act*, they could provide opportunities to steward and protect interconnected blue carbon ecosystems.

Despite the legal and policy tools that are available to protect blue carbon ecosystems, the law and policy framework in Atlantic Canada is currently piecemeal, fragmented, and uncoordinated, making it difficult to address systemic and cumulative impacts on these vital ecosystems. This is further complicated by overlap and conflict between provincial and federal jurisdiction.

However, the challenges and gaps within the current legal and policy landscape are not inevitable or insurmountable. There are opportunities to use or amend existing laws and policies to better manage and protect blue carbon ecosystems. At the provincial level, consideration of project and activity impacts on blue carbon ecosystems with respect to their carbon sequestering ecosystem function should be highlighted and enhanced. As well, policies, especially coastal and wetland protection policies, can and should be updated to recognize and value the importance of blue carbon ecosystems and their ability to sequester blue carbon. At the federal level, the blue carbon ecological function can and must be better recognized within decision-making for fish habitat and protected areas.

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# INTRODUCTION

A blue carbon ecosystem is a form of “carbon sink”, which is a process, activity or mechanism that removes carbon in the form of carbon dioxide (“CO<sub>2</sub>”) from the atmosphere.<sup>1</sup> Blue carbon ecosystems are naturally occurring carbon sinks because they capture and store (sequester) CO<sub>2</sub> through natural processes. Blue carbon ecosystems can either be managed and restored to capture additional carbon or protected to ensure that stored carbon remains out of the atmosphere. Like other natural carbon sinks, vegetation in blue carbon ecosystems absorbs CO<sub>2</sub> from the atmosphere through contact with the gas in the water, air, or both. Marine plants use photosynthesis to take up CO<sub>2</sub>, which is then eventually converted into structural materials that form the physical plant and into the soil.<sup>2</sup> Some CO<sub>2</sub> is released back into the environment through the plant’s respiration process. When a marine plant dies, the CO<sub>2</sub> held within the plant’s structural materials is released as the plant decomposes.<sup>3</sup> If the blue carbon ecosystem is damaged or destroyed, the carbon stored in the soil may also be released.<sup>4</sup>

Coastal “blue carbon” ecosystems such as salt marsh and seagrass meadows draw down and store significant amounts of carbon in their sediments long-term; marine macroalgae such as kelp and rockweed also draw down large amounts of CO<sub>2</sub> from the atmosphere, which may contribute to carbon stored in marine sediments. These marine ecosystems also provide valuable wildlife habitat and support ecosystem and community resilience. However, without protection through law and policy, blue carbon ecosystems are at risk of being degraded and destroyed by business-as-usual industrial activities and coastal development.

Initial conversations between WWF-Canada and members of the blue carbon community of practice highlighted gaps in national blue carbon law and policy that leave these valuable ecosystems vulnerable to degradation and lead to an associated increase in carbon emissions. To build a national legal and policy framework for blue carbon ecosystems, it is necessary to better understand national, provincial, and territorial law and policy that applies to blue carbon ecosystems. Understanding this context is key to developing recommendations and strategies to create national-level law and policy aimed at safeguarding blue carbon ecosystems. Integrating blue carbon ecosystem management and protection into law and policy will also enable the reduction of industrial pressures on wildlife, reduce emissions from natural carbon sinks, and facilitate the restoration of important wildlife habitat.

WWF-Canada is planning a multi-year review of national, provincial, and territorial law to identify where laws exist that may be applied to blue carbon ecosystem management and protection. This review is intended to be the first national snapshot of Canada’s legal regime for blue carbon and support WWF-Canada’s overall goal of developing a national blue carbon framework to inform law and policy at the national level.

This document is part of the first phase of that multi-year review. It is a legal and policy review of the Atlantic Canadian provinces of New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island. Building on the work of the West Coast Environmental Law report *Policy and Planning for Coastal Ecosystems in British Columbia through a Blue Carbon Lens*, this review identifies current laws and policies that govern coastal and marine ecosystems and that have bearing on blue carbon ecosystems. The review provides an

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1. McCoy and Hughes, “Nova Scotia’s Carbon Sinks and 2050 Net-zero Scenarios” (August 2021), online <[https://nslegislature.ca/sites/default/files/pdfs/committees/64\\_1\\_LACSubmissions/20211101/2021-11-01-057-006.pdf](https://nslegislature.ca/sites/default/files/pdfs/committees/64_1_LACSubmissions/20211101/2021-11-01-057-006.pdf)> [“McCoy”], at page 3.

2. McCoy, at page 3.

3. *Ibid.*

4. International Union for Conservation of Nature, “Blue Carbon” Issues Brief, November 2017, online: <[https://www.iucn.org/sites/dev/files/blue\\_carbon\\_issues\\_brief.pdf](https://www.iucn.org/sites/dev/files/blue_carbon_issues_brief.pdf)>

individual and comparative assessment of applicable laws and policies and provides recommendations aimed at addressing gaps and challenges that currently exist with respect to provincial and regional management and protection of blue carbon ecosystems in the Atlantic region.

The scope of the assessment includes laws and policies that may be relevant to the management of blue carbon ecosystems, including salt marshes (coastal habitat), seagrass meadows and macroalgae such as rockweed (intertidal and subtidal), and kelp forests (nearshore, subtidal). In particular, the assessment focuses on four key legislative “areas” that emerged from early scoping: 1) environmental assessments, 2) environmental planning and approvals, 3) fisheries and aquaculture, and 4) species and habitat protections.

For each law and policy canvassed, this document provides an overview of how it works, its potential applicability to blue carbon, and recommendations to strengthen its role in managing and protecting blue carbon ecosystems. Findings for each province and for each legislative “area” are provided at the beginning of each part and section of this document, respectively.

Some notable patterns emerge. Perhaps the most prevalent is the fact that there are no laws or policies in Atlantic Canada that refer to blue carbon explicitly or are designed specifically to manage blue carbon ecosystem functions. In laws or policies that deal with blue carbon ecosystems – for example, policies over wetlands conservation – the important ecological function of sequestering carbon is either missing or is identified but neglected in decision-making. This means that even where blue carbon ecosystems are managed and protected, decision-making processes fail to consider the carbon sequestration and climate change mitigation functions that these ecosystems serve.

The ability of coastal ecosystems like salt marshes and seagrass meadows to sequester carbon is a key ecological function that must be better recognized and assessed throughout decision-making processes for effective management and protection of blue carbon. Explicit recognition and express inclusion of this “blue carbon” function within laws and policies will be crucial to better using existing legal and policy regimes at both the provincial and federal levels to manage and protect blue carbon ecosystems.

# PART 1 – BLUE CARBON ECOSYSTEMS IN ATLANTIC CANADA

## 1.1 BLUE CARBON ECOSYSTEMS IN ATLANTIC CANADA

There are three broadly accepted categories of blue carbon ecosystems: salt marshes, seagrass meadows, and mangroves. Salt marshes and seagrass meadows are present in Atlantic Canada. There is an abundance of coastal salt marshes in all four of the Atlantic provinces. These coastal ecosystems play an important role in protecting coastlines from the impacts of sea level rise, coastal flooding, coastal erosion, and storm surge that are exacerbated by the climate emergency. Salt marshes are found within the land portion of each province and are generally managed and protected under provincial jurisdiction. Seagrass meadows – as well as kelp and macroalgae like rockweed – are also present in the Atlantic region. These ecosystems provide important habitat for fish species, and some species, like rockweed, are also part of growing industries. These kinds of blue carbon ecosystems can be found in subtidal and intertidal areas. While intertidal ecosystems are largely within the jurisdiction of provincial governments, the management and protection of subtidal ecosystems is less clear, but likely falls within federal jurisdiction.

The only law or policy in Atlantic Canada that deals specifically with any of these blue carbon ecosystems are regulations governing the harvesting of rockweed in Nova Scotia under the *Fisheries and Coastal Resources Act* and federally under the *Fisheries Act*. All the Atlantic provinces have laws or policies dealing with wetlands generally, but none are focused specifically on salt marshes.

## 1.2 JURISDICTION OVER BLUE CARBON ECOSYSTEMS IN ATLANTIC CANADA

Jurisdiction over blue carbon ecosystems in Atlantic Canada is shared between Indigenous governments, the federal government and provincial governments, and municipal governments empowered under provincial jurisdiction.

Indigenous peoples in Atlantic Canada recognize and seek to exercise their own inherent jurisdiction over their territories. Their jurisdiction precedes colonization and continues to be rooted in each Indigenous nation's laws. Evolving international and domestic frameworks for Indigenous rights recognition illustrate several ways in which Indigenous jurisdiction may be exercised in blue carbon ecosystems today. International and domestic law also point to a future in which Indigenous jurisdiction to steward lands and waters should be affirmed and upheld.

Canada's *Constitution Act, 1867* divides the governance powers that are held by the federal government and provincial governments. Under section 91, the federal government has jurisdiction over federal Crown land (including national parks), lands held under the *Indian Act*, and Canadian Forces bases. Additionally, the federal government has authority over coastal activities like fisheries, navigation, and shipping. The federal government also has powers over public harbours by virtue of section 108.<sup>5</sup> The exact definition of a "public harbour" has been canvassed by courts in Canada, including the Supreme Court of Canada, but, ultimately, there is no exact definition, and whether a harbour is a public harbour and therefore comes under federal jurisdiction is a matter of fact unique to each case.<sup>6</sup> The federal government controls coastal waters from the ordinary low water mark seaward to 200 nautical miles.

5. See *Constitution Act, 1867*, at section 108; see also Third Schedule of the *Constitution Act, 1867*, at section 2.

6. See for example *Dominion Coal Co. v Cape Breton (County)* 1962 CarswellNS 23, 48 MPR 174, 40 DLR (2d) 593 at para 208. There is a list of public harbours under the *Public Harbours and Port Facilities Regulations*, SOR/2001-154.

Under section 92 of the *Constitution Act, 1867*, provincial governments are limited to governing within their territorial boundaries. Among other things, they have jurisdiction over matters of a local nature, natural resources, coastal areas, and all inland waters, which are sometimes referred to as water within the “jaws of the land”. Provincial governments have authority over coastal waters and adjacent land from the ordinary low water mark inland.

Because section 91(12) of the *Constitution Act, 1867* grants exclusive legislative authority over “sea coast and inland fisheries”<sup>7</sup> to the federal government, provincial jurisdiction over fisheries is limited to areas that touch on aspects of fisheries (and by extension, aquaculture). It is noteworthy that provincial jurisdiction over aquaculture has been challenged in the courts of British Columbia. In the 2009 *Morton v British Columbia* decision (“*Morton*”), the British Columbia Supreme Court declared that four pieces of provincial legislation that governed aquaculture were partially or entirely outside the jurisdiction of the province.<sup>8</sup> The court found that the challenged legislation interfered with section 91(12) of the *Constitution Act, 1867*. The court in *Morton* limited the application of its decision to fish and did not decide provincial jurisdiction over cultivation of marine plants. The *Morton* decision does not bind a court in another province, and no similar case has been litigated in the Atlantic region.

Despite the division of jurisdiction in the *Constitution Act, 1867*, there are ongoing disputes with respect to jurisdiction over certain submarine lands. In these cases, where the territory of a province goes beyond the low water mark, the province may have jurisdiction beyond the low water mark.<sup>9</sup> For example, it is still undecided whether the Bay of Fundy seabed is within the territories of Nova Scotia and New Brunswick.<sup>10</sup>

Municipal governments do not derive authority from the Constitution. Instead, they are granted power by provinces through statute. Because they derive their power from provinces, municipalities in all four Atlantic provinces are usually granted power through provincial laws: for example, the *Municipal Government Act* in Nova Scotia, the *Municipalities Act* in New Brunswick and Newfoundland and Labrador, and the *Municipal Government Act* in Prince Edward Island. These laws transfer responsibilities from the provincial government to municipalities within their local area. Most often, those powers are centered on the ability to regulate the use of land, which can extend to regulation of activities that impact blue carbon ecosystems.

Municipalities can play a role in managing and protecting blue carbon ecosystems, especially through land-use planning and local governance. However, given the number of municipalities in the Atlantic Canadian region and the extensive and complex nature of municipal law and policy, a full assessment of existing municipal law and policy was not within the scope of this review.

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7. *Constitution Act, 1867*, at subsection 91(12).

8. *Morton v British Columbia*, 2009 BCSC 136.

9. East Coast Environmental Law, “Who Owns the Coast” Summary Series Volume 10 (2018) at page 2.

10. East Coast Environmental Law, “Environmental Law for Land and Sea: New Brunswick” Summary Series volume 8 (2010) at page 1.

## PART 2 – INDIGENOUS PEOPLES

The lands and waters that are now known as Atlantic Canada are the territories of several Indigenous peoples: the Mi'kmaq, Wolastoqey, and Peskomuhkati in New Brunswick; the Mi'kmaq, Innu, and Inuit in Newfoundland and Labrador; the Mi'kmaq in Nova Scotia; and the Mi'kmaq in Prince Edward Island. British colonization and the subsequent imposition of federal and provincial governance structures and legal regimes have constrained the exercise of Indigenous jurisdiction within Indigenous territories, but Indigenous jurisdiction to steward lands and waters in Atlantic Canada has not disappeared.

Evolving international and domestic frameworks for Indigenous rights recognition illustrate several ways in which Indigenous jurisdiction may be exercised in blue carbon ecosystems today. International and domestic law also point to a future in which Indigenous jurisdiction to steward lands and waters should be recognized and upheld more fully.

The following commentary identifies some ways in which Indigenous jurisdiction in blue carbon ecosystems is being or could be exercised in Atlantic Canada. It is not an exhaustive summary of opportunities for the recognition and implementation of Indigenous jurisdiction but is instead an overview of some noteworthy examples.

### 2.1 INDIGENOUS CONSULTATION AND ENGAGEMENT OVER ABORIGINAL AND TREATY RIGHTS

Under Canadian law, the Crown must consult with and, if necessary, accommodate Indigenous peoples before making decisions that could adversely affect constitutionally protected Indigenous rights.

Section 35 of Canada's *Constitution Act, 1982*, recognizes and affirms the existing Aboriginal and treaty rights of the Indigenous peoples of Canada. The Supreme Court of Canada has made it clear that when the Crown has real or constructive knowledge of an Indigenous claim or right (i.e., an asserted or established Aboriginal or treaty right protected by the Constitution) and contemplates conduct that could adversely affect that claim or right, the Crown owes a duty to consult and, if necessary, accommodate.

Environmental impact assessment processes are among the most common triggers of the Crown's duty to consult. As other sections of this report address in more detail, neither Canada's *Impact Assessment Act* nor any of the provincial environmental impact assessment regimes that are currently in place in Atlantic Canada explicitly require assessments of impacts on the ecosystem services that blue carbon ecosystems provide; however, when proposed projects that could affect blue carbon ecosystems trigger environmental impact assessment processes, the regimes do offer some opportunities for the assessment of such effects.

When potential impacts on blue carbon ecosystems intersect with asserted or established Aboriginal or treaty rights, Indigenous engagement and consultation in environmental impact assessment processes may present opportunities to promote sustainable stewardship of such ecosystems.

It must be said, however, that Crown consultation processes are not ideal venues for Crown recognition of Indigenous jurisdiction to steward local ecosystems in accordance with Indigenous laws and Indigenous governance structures. In part, this is because Crown consultation is not designed to lead to rights recognition; however, there is a more general problem, which is that the Crown typically treats consultation processes as measures to identify, mitigate, or compensate for isolated impacts on specific Aboriginal or treaty rights – such



as a right to harvest food or medicines in a certain area – and the Crown typically fails to engage meaningfully with Indigenous peoples’ assertions that their rights to harvest species or make use of other natural resources go hand-in-hand with rights to govern their access in accordance with their own laws and also go hand-in-hand with corresponding stewardship responsibilities that their laws set out as well. In other words, whereas Indigenous peoples typically assert access rights that are connected fundamentally to governance rights and legal stewardship responsibilities, Crown consultation processes typically fragment that bigger picture, silo the access rights, and ignore the deeper Indigenous jurisdiction issues that are at stake.

## 2.2 RECOGNITION AND IMPLEMENTATION OF INDIGENOUS JURISDICTION

Compared to Crown consultation processes, Comprehensive Land Claims processes, Indigenous Rights and Self-Determination processes, and other processes for Indigenous rights recognition present broader opportunities for recognition and implementation of Indigenous jurisdiction to steward lands and waters.

In Atlantic Canada, the Government of Canada’s Comprehensive Land Claims process has resulted in the establishment of one “modern treaty”: the *Labrador Inuit Land Claims Agreement*, which came into force in December 2005 (see also subsection 4.2.2).<sup>11</sup> There are also ongoing land claims negotiations between the Government of Canada, the Government of Newfoundland and Labrador, and the Innu Nation in Labrador.<sup>12</sup>

A significant number of Inuit in Labrador are not beneficiaries of the *Labrador Inuit Land Claims Agreement*, which was finalized by the Government of Canada, the Government of Newfoundland and Labrador, and the Nunatsiavut Government. The Southern Inuit of NunatuKavut, represented by the NunatuKavut Community Council, are currently engaging in a newer federal process, called a Recognition of Indigenous Rights and Self-Determination discussion table, with the aim of securing Canadian recognition of Southern Inuit rights and jurisdiction in areas of Labrador.

In Nova Scotia, the Mi’kmaq of Nova Scotia have long been negotiating with the Government of Canada and the Government of Nova Scotia in a tripartite forum designed to secure modern recognition and implementation of Mi’kmaq rights under the eighteenth-century treaties of Peace and Friendship between the Mi’kmaq and the British Crown. Whereas the Government of Canada’s Comprehensive Land Claims process was designed primarily to address Indigenous title claims in areas where historical treaties were never established between Indigenous peoples and British/Canadian settlers, the tripartite forum established between the Mi’kmaq of Nova Scotia, the Government of Nova Scotia, and the Government of Canada was designed to address longstanding Canadian failures to recognize and fully uphold treaty obligations that were established roughly three hundred years ago. Mi’kmaq title claims in Nova Scotia and corresponding assertions of jurisdiction are among the claims being addressed in this forum.

Indigenous title claims and other rights recognition arguments may also be advanced in court instead of at discussion and negotiation tables. Most recently, the Wolastoqey Nation has initiated a title claim in the courts of New Brunswick. The action was launched in the autumn of 2020, and it will likely be years before it is resolved.

When Indigenous title or other Indigenous jurisdiction over lands and waters is recognized by the Government of Canada, a provincial or territorial government, or a court, that recognition can open up an array of possibilities for the implementation of Indigenous governance structures and Indigenous laws. Currently, the *Labrador Inuit Land Claims Agreement* is the only agreement through which the Government of Canada and a

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11. See Government of Newfoundland and Labrador Office of Indigenous Affairs and Reconciliation, “Land Claims” (undated), online: <<https://www.gov.nl.ca/exec/iar/overview/land-claims/>>

12. *Ibid.*

provincial government have formally recognized extensive Indigenous jurisdiction in areas covered by treaty in Atlantic Canada. Some of the implications of that recognition are discussed in more detail in Part 3 of this report, which discusses legal and policy regimes that shape development and planning in Newfoundland and Labrador.

## 2.3 INDIGENOUS JURISDICTION UNDER THE FIRST NATIONS LAND MANAGEMENT ACT

The federal regime established under Canada's *First Nations Land Management Act*<sup>13</sup> (the "*FNLMA*") offers processes through which some First Nation jurisdiction over land management on reserve will be recognized. Functioning in tandem with the *Framework Agreement on First Nation Land Management*, the *FNLMA* establishes a regime in which First Nations may enact land codes for land management on reserve. When a First Nation's land code enacted under the *FNLMA* comes into force, various sections of the *Indian Act* that empower the federal government to manage reserve lands cease to apply to that First Nation, and the First Nation assumes responsibility over various land management issues, including environmental protection. Among other things, the *FNLMA* empowers First Nations who enact land codes to establish and implement their own environmental assessment laws. Other land management powers that may be ceded by the federal government and returned to First Nations under the *FNLMA* include powers to dispose of certain resources on reserve, including sand.

There are significant limitations on the extent to which the *FNLMA* recognizes First Nation jurisdiction over land management on reserve; however, the regime established under the Act provides some opportunities to move beyond the *Indian Act* and revitalize First Nations' laws concerning the use and stewardship of local ecosystems. Seven First Nation communities in Atlantic Canada have signed the *Framework Agreement on First Nation Land Management*,<sup>14</sup> and three of those communities have enacted land codes under the *FNLMA*.<sup>15</sup> We are not aware of any environmental assessment laws having yet been established by those communities.

If First Nation communities in Atlantic Canada occupy reserve lands that include blue carbon ecosystems, the land management regime established by the *FNLMA* presents some opportunities through which Indigenous jurisdiction concerning blue carbon ecosystems could be recognized.

## 2.4 EXERCISE OF INDIGENOUS JURISDICTION IN INDIGENOUS PROTECTED AND CONSERVED AREAS

Indigenous Protected and Conserved Areas ("*IPCAs*") are stewardship areas established by Indigenous peoples in which protection and conservation measures are Indigenous-led and shaped by Indigenous laws defining environmental rights and responsibilities.

Indigenous methods of establishing *IPCAs* vary on a case-by-case basis and are shaped by Indigenous groups' specific needs and objectives. Although the environmental stewardship aspect of *IPCAs* is important, *IPCAs* are also assertions of Indigenous sovereignty and Indigenous governance rights in Indigenous territories. Some *IPCAs* in Canada have been established without involvement by the Government of Canada or a provincial or territorial government, while some are being developed through collaborative engagement with the federal government and provincial and territorial governments.

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13. *First Nations Land Management Act*, SC 1999, c 24 ["*FNLMA*"].

14. See Schedule 1 of the *FNLMA*. The seven communities are: Kingsclear First Nation, Madawaska Maliseet First Nation, Saint Mary's First Nation, and Woodstock First Nation in New Brunswick; Miawpukek First Nation in Newfoundland and Labrador; and Membertou First Nation in Nova Scotia.

15. See Schedule 2 of the *FNLMA*. The three communities are: Miawpukek First Nation in Newfoundland and Labrador; Madawaska Maliseet First Nation in New Brunswick; and Membertou First Nation in Nova Scotia.

The Government of Canada is supporting the development of IPCAs through the Canada Target 1 Challenge, which is a funding initiative designed to advance the federal government's long-term land and ocean conservation goals. Several collaborative projects between Indigenous groups and provincial governments are currently being funded through that initiative,<sup>16</sup> and some may offer innovative opportunities for the exercise of Indigenous jurisdiction to steward blue carbon ecosystems. For example, the Unama'ki Mi'kmaw IPCA Project – which is being undertaken in Nova Scotia by the Confederacy of Mainland Mi'kmaq, Eskasoni Fish & Wildlife Commission, and Unama'ki Institute of Natural Resources, under the leadership of the Assembly of Nova Scotia Mi'kmaq Chiefs – is exploring the development of a Mi'kmaw IPCA that could include considerable coastal and marine areas in northern Cape Breton.<sup>17</sup>

IPCAs present opportunities for the exercise of Indigenous jurisdiction in blue carbon ecosystems and, in some cases, IPCAs may include formal recognition of such jurisdiction by the federal government and/or a provincial or territorial government. Co-management between Indigenous governments and Canadian governments is also possible, and collaborative approaches to stewardship may serve not only to protect and conserve critical ecosystem services but also to advance meaningful recognition of Indigenous governance rights.

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16. These include: the “Reconciliation & Stewardship through Land Conservation in Mi'gmaq Traditional Territory of Fort Folly First Nation and the UNESCO Fundy Biosphere Reserve (Establishment)” project by Fort Folly First Nation and New Brunswick; the “Establishing the Skutik Indigenous Protected and Conserved Area (IPCA) in New Brunswick, Canada (Establishment)” project by Passamaquoddy Recognition Group Inc. and New Brunswick; the “New Brunswick Mi'gmaq Indigenous Protected and Conserved Areas Proposal (Establishment)” project by Mi'gmaw'e'l Tplu'taqnn Inc. and New Brunswick; the “Wolustokwiyik/Maliseet Indigenous Protected and Conserved Area (WMIPCA) Establishment” project between Maliseet Nation Conservation Council and New Brunswick; the “Creating Indigenous Protected Areas within the Traditional Territory of Miawpukek First Nation (Preliminary work)” project by Miawpukek First Nation and Newfoundland and Labrador; the “Innu Parks Project / Minashkuau Kanakutuataku (Preliminary work)” project by Innu Nation and Newfoundland and Labrador; and, the “Advancing Target 1 in Nova Scotia – A Collaborative Conservation Approach (Establishment) by Nova Scotia, which is supporting the “Unama'ki Mi'kmaw IPCA Project”. See Government of Canada, “Canada Target 1 Challenge” (4 May 2021), online: <<https://www.canada.ca/en/environment-climate-change/services/nature-legacy/canada-target-one-challenge.html#events>>; see also Conservation through Reconciliation Partnership, “Emerging Indigenous Protected and Conserved Areas: the Unama'ki Mi'kmaw IPCA Project” (12 April 2021), online: <<https://conservation-reconciliation.ca/crp-blog/emerging-indigenous-protected-and-conserved-areas-the-unamaki-mikmaw-ipca-project>>.

17. See Conservation through Reconciliation Partnership, “Emerging Indigenous Protected and Conserved Areas: the Unama'ki Mi'kmaw IPCA Project” (12 April 2021), online: <<https://conservation-reconciliation.ca/crp-blog/emerging-indigenous-protected-and-conserved-areas-the-unamaki-mikmaw-ipca-project>>.

## PART 3 – NEW BRUNSWICK

New Brunswick's environmental impact assessment regime has promise for assessing impacts on blue carbon ecosystems because the project list in the *Environmental Impact Assessment Regulation* – which is the list of types of projects that will require an assessment – includes broad catch-all categories for specific ecosystems. For example, any project that impacts two or more hectares must undergo EIA and any project impacting a “unique”, “rare”, or “endangered” feature of the environment must undergo EIA. If the *Regulation* was amended, such an approach could be extended to blue carbon ecosystems.

A Wetland Designation Order or Coastal Designation Order under the *Clean Environment Act* could be used to protect wetlands or coastal areas, including blue carbon ecosystems. Currently, carbon sequestration of seagrass meadows and salt marshes is not identified as a wetland or ecological function in any legislation or policy in New Brunswick. The blue carbon sequestration ecological function could be included in either the province's wetlands or coastal areas conservation policies to help guide decision-making and make blue carbon ecosystem protection a conservation priority.

New Brunswick fisheries and aquaculture laws offer some limited opportunities to steward or protect blue carbon ecosystems. Under the *General Regulation - Aquaculture Act*, the registrar responsible for aquaculture may refuse to issue, renew, or amend an aquaculture licence if it would cause undue conflict with “ecologically and environmentally sensitive areas”. If blue carbon ecosystems were identified – perhaps in a provincial policy – as ecologically and environmentally sensitive, the registrar would have a reason to deny applications for aquaculture projects that impact these ecosystems.

The New Brunswick *Protected Natural Areas Act* offers potential opportunities to protect blue carbon ecosystems through designation as protected natural areas. However, blue carbon ecosystems would need to be considered “unique” or “ecologically sensitive” areas.

### 3.1 ASSESSING PROJECT IMPACTS

In New Brunswick, environmental impact assessment (“EIA”) is used to assess the potential impacts of some proposed projects on the environment before they are carried out. The objective of an EIA is to anticipate and assess the adverse effects of a project, predict whether effects will be significant, and design measures to eliminate or mitigate adverse effects where possible. Depending on the extent of a project's adverse effects, the project may be denied approval through the EIA process and not be allowed to proceed.

New Brunswick EIAs are administered by the EIA Branch of the Department of Environment and Local Government (in this section, the “Department”) under the *Clean Environment Act* and its *Environmental Impact Assessment Regulation* (the “*Regulation*”). The EIA Branch is also guided by the *Guide to Environmental Impact Assessment in New Brunswick* (the “*Guide*”).<sup>18</sup>

#### **Finding:**

Although there is no legal requirement in New Brunswick's EIA regime to assess project impacts on blue carbon ecosystems' carbon sequestering function, there are various triggers for EIA that may apply to projects that impact blue carbon ecosystems. Within individual EIA processes, where projects may impact blue carbon ecosystems, participants and proponents are free to comment on or assess those impacts. However, there is

18. Department of Environment and Local Government, *A Guide to Environmental Impact Assessment in New Brunswick* (January 2018), online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/EIA-EIE/GuideEnvironmentalImpactAssessment.pdf>> [“NB EIA Guide”].

no legal requirement for the EIA Branch to consider that information as part of its review. Additionally, there are no references to or requirements for assessing impacts on ecosystems' abilities to sequester carbon in the Department's EIA guides and policies.

### 3.1.1 ENVIRONMENTAL IMPACT ASSESSMENT REGULATION

In New Brunswick, if a project is a type of project that is listed in Schedule A of the *Regulation*, it is classified as an “undertaking” and its proponent must register it with the Department for a Determination Review. This is the first step of the EIA process. The EIA branch will then determine if further steps are required.

In New Brunswick, no project triggers an EIA for the specific reason that it impacts a blue carbon ecosystem or any kind of carbon sink. More generally, the *Regulation* does not legally require undertakings to be assessed for their impacts or contributions to climate change. However, there are certain kinds of undertakings that may be particularly connected to blue carbon ecosystems. For example, Schedule A of the *Regulation* requires an EIA for any project that affects two or more hectares of bog, marsh, swamp, or other wetland.<sup>19</sup> Since the definition of a wetland set out in the *Clean Environment Act* is inclusive of all types of wetlands (see subsection 3.2.1 below) this would include projects that affect salt marshes.<sup>20</sup> An EIA is also required for a coastal causeway, programs or commercial venues like coastal aquaculture that will introduce a non-indigenous plant or animal species into the province, coastal waste and sewage disposal facilities, and any major recreational or tourism development that changes coastal lands.<sup>21</sup> Since all of these kinds of undertakings are connected to the coast, the impacts on blue carbon ecosystems by these projects could be assessed.

Finally, all projects or activities that affect a unique, rare, or endangered feature of the environment require an EIA.<sup>22</sup> Our researched showed no examples of a blue carbon ecosystem being identified as a “unique”, “rare”, or “endangered” feature of the environment and the terms are not defined in the *Clean Environment Act*, the *Regulation*, or the *Guide*. If blue carbon ecosystems were recognized in provincial law or policy as having “unique”, “rare”, or “endangered” features, then projects impacting blue carbon ecosystems would trigger an EIA.

**Recommendation:** In New Brunswick, blue carbon ecosystems should be recognized in law or policy as being having “unique”, “rare” or “endangered” so that projects impacting these features would require an EIA.

The *Guide* states that a proponent is required to identify environmental impacts for each stage of an undertaking.<sup>23</sup> Anticipated impacts may be characterized in terms of compliance with legislation, policies, guidelines, and standards. Therefore, while impacts on blue carbon ecosystems are not a direct focus, they can be indirectly addressed by reference to existing laws and policies that have a connection to blue carbon. For example, does an undertaking result in a net loss of wetland function contrary to the province's *Wetlands Conservation Policy*?<sup>24</sup> In this example, any project impacts on the carbon sequestering wetland function of salt marshes could be considered as part of an EIA.

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19. *Environmental Impact Assessment Regulation*, NB Reg 87-83 [“**NB EIA Reg**”], at subsection (v) of Appendix A.

20. See *Clean Environment Act*, RSNB 1973 c C-6 [“**Clean Environment Act**”], at section 1. A wetland is defined as any land that (a) periodically or permanently, has a water table at, near or above the land's surface or that is saturated with water, and (b) sustains aquatic processes as indicated by the presence of hydric soils, hydrophytic vegetation and biological activities adapted to wet conditions).

21. NB *EIA Reg*, at subsections (i), (l), (m), (n), and (p) of Appendix A.

22. *Ibid*, at subsection (u) of Appendix A.

23. NB *EIA Guide*, at page 21.

24. *Ibid*.



The *Guide* also refers to federal guidance on climate change considerations found in the *Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners*.<sup>25</sup> Although these federal guidelines applied to the *Canadian Environmental Assessment Act*, which is no longer in force, the guidelines are worth highlighting because they anticipated that projects undergoing federal environmental assessment were meant to assess effects on carbon sinks.<sup>26</sup>

In addition to its general *Guide*, the Department also has sector-specific guidelines for proponents to use. The following are relevant to blue carbon ecosystems:

- **Aquaculture facilities:** The proponent should include siting considerations like how the project will adhere to the *New Brunswick Coastal Areas Protection Policy*.<sup>27</sup> While the carbon sequestration function is not listed as an example of an environmental condition, an analysis of blue carbon could be included. This sector guide also references the *Federal Policy on Wetland Conservation* and the *Federal Policy on Wetland Conservation – Implementation Guide for Federal Land Managers*.<sup>28</sup> (see below in section 7.3.5).
- **Constructed wetlands:** The proponent should include information about existing wetlands, including their type, functions, and boundaries.<sup>29</sup>
- **Dams, Impoundments and Causeways:** The proponent should include information about existing wetlands, including their type, functions, and boundaries.<sup>30</sup>
- **Peat Development Projects:** The proponent should include a summary of environmental impacts on water use, water quality, and wildlife.<sup>31</sup>

**Recommendation:** The New Brunswick Department of Environment and Local Government should create a guide setting out how project impacts on blue carbon ecosystems, including their ability to sequester carbon, should be assessed in an EIA.

## 3.2 DEVELOPMENT AND PLANNING

There are several laws and policies in New Brunswick that govern general aspects of the environment, including coastal ecosystems. These laws could be used to protect or manage blue carbon ecosystems in some instances.

### **Finding:**

Wetland Designation Orders or Coastal Designation Orders created under the *Clean Environment Act* are ideally suited to protect blue carbon ecosystems, particularly salt marshes, in New Brunswick because there are no barriers to their use if the ecosystem meets the definition of “coastal area” or “wetland”.

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25. *Ibid*, at page 22.

26. Federal-Provincial-Territorial Committee on Climate Change and Environmental Assessment, “Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners” (November 2003), online: < <https://www.canada.ca/content/dam/iaac-acei/documents/policy-guidance/incorporating-climate-change-considerations-environmental-assessment-general-guidance-practitioners/incorporating-climate-change-considerations-environmental-assessment.pdf> > at section 2.0.

27. Government of New Brunswick, “Additional Information Requirements for Aquaculture Facilities” Version 04-08-05, online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/EIA-EIE/SectorGuidelines/AquacultureFacilities.pdf>>, at page 2.

28. *Ibid*, at page 10.

29. Government of New Brunswick, “Additional Information Requirements for Projects Involving Constructed Wetlands” Version 05-03-02, online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/EIA-EIE/SectorGuidelines/ConstructedWetlands.pdf>>, at page 4.

30. Government of New Brunswick, “Additional Information Requirements for Projects Involved Dams, Impoundments and/or Causeways” Version 04-07-13, online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/EIA-EIE/SectorGuidelines/DamsImpoundsCauseways.pdf>>, at page 3.

31. Government of New Brunswick, “Additional Information Requirements for Peat Development Projects” Version 05-04-07, online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/EIA-EIE/SectorGuidelines/PeatDevelopmentProjects.pdf>>, at pages 5-6.

### 3.2.1 CLEAN ENVIRONMENT ACT

The *Clean Environment Act* (in this section, the “Act”) deals with a variety of environmental

issues in the province, including pesticide use, contaminants and contaminated land, coastal and wetland designations, solid waste, and other environmental matters. The Department of Environment and Local Government administers the Act.

While many of the subjects falling within the scope of the Act have some bearing on governance over blue carbon ecosystems, the coastal area and wetland designations have the most direct bearing on the ability to manage and protect blue carbon.

Under the Act, the Minister of Environment and Local Government or the Minister of Natural Resources and Renewable Energy may use a Wetland Designation Order to designate a wetland, or part of a wetland, as a protected area.<sup>32</sup> Designation requires the approval of the Lieutenant-Governor in Council (“LGiC”). A wetland is any land that meets two conditions:

- (a) either periodically or permanently, has a water table at, near or above the land’s surface or that is saturated with water, and
- (b) sustains aquatic processes as indicated by the presence of hydric soils, hydrophytic vegetation and biological activities adapted to wet conditions.<sup>33</sup>

Similarly, the Minister of Environment and Local Government may, with the approval of the LGiC, use a Coastal Designation Order to designate a coastal area, or part of a coastal area, as a protected area.<sup>34</sup> A coastal area is:

- (a) the air, water, and land between
  - (i) the lower low water large tide, and
  - (ii) one kilometre landward of the higher high water large tide or one kilometre landward of any coastal feature, whichever extends farther inland, or
- (b) in the case of a watercourse named in the first column of Schedule A of *New Brunswick Regulation 90-80* under the *Clean Water Act*, the air, water and land between the lower low water large tide and one kilometre upstream of the line joining the associated location described in the second and third columns of Schedule A of that regulation.<sup>35</sup>

A protected area under either kind of order can include land or water adjacent to the wetland or coastal area that the Minister considers necessary for the protection of the environment.<sup>36</sup> In an order, the Minister may prohibit, control, or limit any activity affecting the environment or using land or water in the protected area. The Minister may also set out other terms and conditions.<sup>37</sup> Any person who proposes to do an activity that is prohibited, controlled, limited, or otherwise affected by either order can apply to the Minister for an exemption.<sup>38</sup> The Minister cannot grant an exemption for an undertaking (a project subject to EIA) unless they have made a determination under the *Environmental Impact Assessment Regulation* that the undertaking can proceed without an EIA or the LGiC has given an approval to an undertaking after having considered

32. *Clean Environment Act*, at subsection 6.1(2).

33. *Ibid*, at section 1.

34. *Ibid*, at subsection 6.4(2).

35. *Ibid*, at section 1.

36. *Ibid*, at subsections 6.1(3) and 6.4(3).

37. *Ibid*, at subsections 6.1(6) and 6.4(6).

38. *Ibid*, at subsections 6.2(1) and 6.5(1).

an environmental assessment report.<sup>39</sup> If a Minister refuses a request for an exemption, they must provide reasons.<sup>40</sup>

The *Clean Environment Act* does not establish any criteria for designation of, or exemption under, a Wetland Designation Order or Coastal Designation Order. However, because the purpose of both kinds of order is “protecting the environment”, both kinds of order could be used to protect blue carbon ecosystems in New Brunswick. The Coastal Designation Order is more relevant generally to blue carbon ecosystems, while the Wetland Designation Order is relevant for protecting salt marshes.

### 3.2.2 CLEAN WATER ACT

The *Clean Water Act* (in this section, the “Act”) deals with water, including water quality, drinking water, and industrial and recreational uses of water. The Department of Environment and Local Government administers the *Act*.

The focus of the *Act* is on water as a resource, rather than marine and freshwater species and ecosystems. However, provisions in the *Act* prohibiting the alteration of watercourses and wetlands are relevant to protecting the water quality within blue carbon ecosystems.

As a preliminary note, where a contaminant may be or is released into or onto water, and is either prohibited or released at rates exceeding allowable levels, the Minister of Environment and Local Government (in this section, the “Minister”) can issue an order setting out directions to address the contamination.<sup>41</sup> With the approval of the LGIC, the Minister can also use a designation order to create a protected area if a watershed, aquifer, or ground water recharge area is used as a source of water for a public water supply system.<sup>42</sup> While these order-making powers are generally applicable to water resources, they may be relevant for blue carbon ecosystems that are at risk of contamination or serve as a water resource for public systems.

More importantly, the *Act* prohibits the alteration of a watercourse or wetland without a permit issued by the Minister.<sup>43</sup> A “watercourse” includes the bed, banks, sides and shoreline, or any part, of a body of water like a river, creek, or natural or artificial channel. A “wetland” has the same meaning as in the *Clean Environment Act*.<sup>44</sup> An “alteration” is defined as a “temporary or permanent change made at, near, or to a watercourse or wetland or to the water flow in a watercourse or wetland”.<sup>45</sup> Therefore, alterations to a watercourse or wetland are relevant to managing and protecting blue carbon ecosystems, including seagrass meadows and salt marshes that are within the province’s jurisdiction.

### 3.2.3 WATERCOURSE AND WETLAND ALTERATION REGULATION

The *Watercourse and Wetland Alteration Regulation* (in this section, the “Regulation”), which exists under the *Clean Water Act*, governs watercourse and wetland alterations in New Brunswick, including the application process for an alteration permit.

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39. *Ibid.*, at subsections 6.2(3) and 6.5(3); see also subsections 4(a) and 16(2) of the NB *EIA Reg.*

40. *Clean Environment Act*, at subsection 6.2(2)(c) and 6.5(2)(c).

41. *Clean Water Act*, SNB 1989, c C-6.1 [“**Clean Water Act**”], at section 4.

42. *Ibid.*, section 14(1). Watershed protected areas are listed in the *Watershed Protected Area Designation Order*, NB Reg 2001-83. Exemptions to these protected areas are governed by the *Protected Area Exemption Regulation*, NB Reg 90-120.

43. *Clean Water Act*, at section 15(1).

44. *Ibid.* A wetland is defined as any land that (a) periodically or permanently, has a water table at, near or above the land’s surface or that is saturated with water, and (b) sustains aquatic processes as indicated by the presence of hydric soils, hydrophytic vegetation and biological activities adapted to wet conditions).

45. *Clean Water Act*, at section 1.

There are three types of alteration permits: an emergency permit, a provisional permit, and a standard permit. An emergency permit may be issued where, in the Minister's opinion, an emergency exists.<sup>46</sup> Emergency permits cannot exceed 90 days, and a person receiving one must provide all the necessary information normally required for a permit to the Minister within 30 days.<sup>47</sup> A provisional permit deals with alterations that pose a "potentially low level of environmental risk and can typically be carried out with a standard set of conditions of approval". A standard permit deals with alterations of a significant nature that pose a "higher risk to the environment".<sup>48</sup>

When the Minister receives an application for a provisional watercourse or wetland alteration permit, they must determine "whether or not, in the opinion of the Minister, the planned watercourse or wetland alteration would or could pose a significant threat to the environment".<sup>49</sup> The process for a standard permit is not set out in the *Regulation*, but the *Watercourse and Wetland Permitting Guidelines* state that the approval process for a standard permit will require a comprehensive review and establishment of site-specific conditions.<sup>50</sup> When the *Clean Water Act* and the *Watercourse and Wetland Alteration Regulations* are read purposively and in the context that the Minister is required to assess significant threats to the environment for provisional permits and is generally not obligated to allow wetland alterations, an interpretation of the regime suggests that the Minister must assess threats to watercourses or wetlands in all applications for alteration permits.

When the Minister receives an application for a standard permit, they may demand copies of plans and "any other documents and information the Minister considers necessary or useful" before deciding to deny or approve a permit.<sup>51</sup> The Minister may then issue a permit with terms and conditions.<sup>52</sup>

The Minister has discretion about whether to issue a permit, which can make it difficult to determine whether a permit will be issued for a watercourse or wetland that includes a blue carbon ecosystem. However, the process is guided by the *Watercourse and Wetland Alteration Technical Guidelines* (in this section, the "*Guidelines*").<sup>53</sup> The *Guidelines* contain information about how the Department reviews permit applications and grants permits.<sup>54</sup> It is noteworthy that the *Guidelines* are ten years old and contain frequent references to provincial and federal statutes that have since been amended or replaced. For example, the *Guidelines* refer to the federal *Fisheries Act*, which has been amended multiple times since the *Guidelines* were established, and the *Canadian Environmental Assessment Act*, which was amended significantly in 2012 replaced by new a new statute in 2019.

The *Guidelines* provide a list of documents that are required for alteration permit applications: engineering scale drawings, drawings to scale, dimensioned sketches, maps, property identification numbers, and coordinates for proposed alterations are all required under the *Guidelines*.<sup>55</sup> The *Guidelines* state that the aim of the alteration permitting process is to preserve the province's watercourses and wetlands and to protect aquatic habitat.<sup>56</sup> They do not identify protection of wetland function as an objective. They provide information about the different wetland functions, and although carbon sequestration is not listed as a wetland function, they state that wetlands vegetation and root systems can act to filter out "pollutants" (not defined in the *Act* or the *Regulations*).<sup>57</sup>

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46. *Watercourse and Wetland Alteration Regulation*, NB Reg 90-80 ["*WWAR*"], at subsection 12(1).

47. *Ibid*, at subsection 12(2).

48. Government of New Brunswick, "Watercourse and Wetland Alteration Permit", online: <[https://www2.gnb.ca/content/gnb/en/services/services\\_renderer.2935.html](https://www2.gnb.ca/content/gnb/en/services/services_renderer.2935.html)> ["**NB WWAR Overview**"]; see also Department of Environment and Local Government, Source and Surface Water Management, "Watercourse and Wetland Permitting Guidelines", online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Wetlands-TerreHumides/WatercourseAndWetlandPermittingGuidelines.pdf>>

49. *WWAR*, at subsection 12.1(2).

50. NB WWAR Overview.

51. *WWAR*, at subsection 5(3); see also: *Clean Water Act*, at subsection 15(1)(a).

52. *Clean Water Act*, at section 9.

53. Province of New Brunswick, Department of Environment, "Watercourse and Wetland Alteration Technical", (January 2012), online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Water-Eau/WatercourseWetlandAlterationTechnicalGuidelines.pdf>>

54. *Ibid*, at page 7.

55. *Ibid*, at page 15.

56. *Ibid*, at page 8.

57. *Ibid*, at page 8-9.

**Recommendation:** The impacts of a watercourse or wetland alteration on blue carbon ecosystem function should be assessed during the permitting process under the New Brunswick *Watercourse and Wetland Alteration Regulation*. Specifically, any alteration of a coastal wetland, especially a salt marsh or a seagrass meadow in a marine area within the province’s jurisdiction, should be considered a “significant threat to the environment” within the meaning of the *Regulation*. The *Watercourse and Wetland Alteration Technical Guidelines* should be updated to reflect that carbon sequestration is a wetland function.

The *Watercourse and Wetland Alteration Regulation* exempts some activities from needing an alteration permit.<sup>58</sup> For example, harvesting of aquatic plants by physical means for recreation, navigation, or gathering food and for the installation of drainage tile to drain agricultural lands are activities that are exempted.<sup>59</sup> There is no definition for “aquatic plants”, and it is likely that seagrass meadow species would be captured by the exemption for harvesting of aquatic plants; however, the exemption does not apply to commercial operations.

The *Regulation* also prohibits the removal of sand, gravel, rock, or “similar material” from a watercourse or wetland for sale, gain, or commercial use. This is consistent with the *Clean Water Act*, where an alteration means “any deposit or removal of sand, gravel, rock, topsoil, organic matter, or other material into or from a watercourse or wetland”.<sup>60</sup> It is noteworthy, however, that the *Regulation* explicitly exempts peat removal from the prohibition.<sup>61</sup> This means that under the Act, if a project received a valid alteration permit, peat harvesting would be permitted in a blue carbon ecosystem within the project area.

**Recommendation:** To better protect blue carbon ecosystems, harvesting or removal of peat in blue carbon ecosystems should be prohibited. This could be achieved by removing or amending subsection 4(2) of the New Brunswick *Watercourse and Wetland Alteration Regulation*.

### 3.2.4 WETLAND CONSERVATION POLICY

The *New Brunswick Wetlands Conservation Policy* (in this section, the “*Policy*”) aids with the management and protection of wetlands in the province by guiding government decision-making pertaining to wetlands. It was produced by the Department of Natural Resources and Energy (now called Natural Resources and Renewable Energy), which is responsible for wetland habitat and biodiversity functions, and the Department of Environment and Local Government, which is responsible for ground water and surface water quality.<sup>62</sup>

One of the *Policy*’s objectives is to manage human activity on or near wetlands to achieve no loss of “provincially significant wetland habitat” and no net loss of wetland function for all other wetlands.<sup>63</sup> All coastal marshes are Provincially Significant Wetlands. This means that government is not meant to support activities within 30 meters of these areas or activities that poses substantial risk to these areas, except those that rehabilitate, restore, or enhance them, or those that are deemed to provide necessary public function.<sup>64</sup> To date, 65% of New Brunswick’s coastal marshes have already been lost, mainly due to land conversion for agriculture.<sup>65</sup>

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58. *WWAR*, at section 3.

59. *Ibid*, at subsection 3(3).

60. *Clean Water Act*, at subsection 1.

61. *WWAR*, at section 4.

62. Government of New Brunswick, “*New Brunswick Wetlands Conservation Policy*” (July 2002), online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Wetlands-TerreHumides/WetlandsTerresHumides.pdf>> [“**NB WCP**”], at page 6.

63. *NB WCP*, at page 3.

64. *Ibid*, at page 9. A necessary public function are ones found at a provincial scale, such as public transportation, infrastructure, linear pipelines, or transmission corridors, and public safety (see page 13).

65. *Ibid*, at page 6.



The *Policy* does not identify carbon sequestration as a wetland function.<sup>66</sup> However, since all coastal marshes are Provincially Significant Wetlands, blue carbon salt marshes are provided with some protection (albeit non-legal protection). There is no definition for a coastal marsh in the *Clean Environment Act*, *Clean Water Act*, or the *Watercourse and Wetland Alteration Regulation*, but a coastal marsh is considered a type of “coastal feature” under the *Clean Environment Act*.<sup>67</sup> The *Coastal Areas Protection Policy* (see subsection 3.2.5 below) defines coastal marshes as “wetlands dominated by rooted herbaceous plants” and notes that they “drain directly into coastal waters and have the potential to be at least partially inundated with salt or brackish water”.<sup>68</sup>

**Recommendation:** To be more useful for guiding government decision-making pertaining to blue carbon ecosystems, the *New Brunswick Wetlands Conservation Policy* should be amended to explicitly recognize carbon sequestration as a wetland function.

The *Policy* can be an important guide to assessing project impacts within the province’s EIA process. As mentioned in the EIA subsection above, the Department of Environment and Local Government will require proponents to identify what environmental impacts their projects will have, including how they will comply with provincial policies.<sup>69</sup> Therefore, proponents in the EIA process should assess how their projects will achieve no loss of salt marshes or blue carbon ecosystem function.

The *Policy* should also guide peat-extraction in New Brunswick, which is an activity where management and governance is largely focused on site reclamation efforts rather than assessment of impacts. As is discussed further below, because reclamation efforts are focused on restoring wetland function, blue carbon ecosystem function should be captured.

The *Policy* is not mentioned by any provincial laws or policies that pertain to watercourse and wetland alterations, so it is unclear how the Department considers the *Policy* during the alteration permit process.

**Recommendation:** The New Brunswick Department of Environment and Local Government should amend their policies guiding the watercourse and wetlands alteration permitting process so that the *New Brunswick Wetlands Conservation Policy* and the impact of projects on salt marshes and their blue carbon ecosystem function are considered as part of each application assessment.

### 3.2.5 COASTAL AREAS PROTECTION POLICY

The *Coastal Areas Protection Policy* (in this section, the “*Policy*”) is a policy meant to address human development and climate change pressures in coastal areas, including private and public land, by identifying “sensitive coastal areas” and establishing zones that enable or restrict various kinds of development or activities.<sup>70</sup> It is implemented through the *Watercourse and Wetland Alteration Regulation* and administered by the Source and Surface Water Management Branch of the Department of Environment and Local Government.<sup>71</sup>

An objective of the *Policy*, like the *New Brunswick Wetlands Conservation Policy*, is to prevent the loss of provincially significant wetland habitat and achieve no net loss of wetland function for all other wetlands. Other objectives relevant to protection and management of blue carbon ecosystems include promoting stewardship and securement of wetlands through enhanced cooperation with other jurisdictions and maintaining vegetation

66. *Ibid*, at page 4.

67. *Clean Environment Act*, at section 1.

68. Government of New Brunswick, “Coastal Areas Protection Policy”, Version 2.0 (March 2019), online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Water-Eau/CoastalAreasProtectionPolicy.pdf>> [“NB CAPP”], at page 9.

69. Government of New Brunswick, “Guide to Environmental Impact Assessment in New Brunswick” (January 2018), online: <<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/EIA-EIE/GuideEnvironmentalImpactAssessment.pdf>>, at page 21.

70. NB CAPP, at page 2-4.

71. *Ibid*, at page 3.

in coastal ecosystems.<sup>72</sup> To achieve its objectives, the *Policy* is meant to guide the Department with assessing whether activities should receive a watercourse and wetland alteration permit or be approved through an EIA if the activities will be carried out in sensitive coastal areas.

**Recommendation:** To provide protection for seagrass meadows, the New Brunswick *Coastal Areas Protection Policy* should be amended so that one of its objectives is the prevention of any loss of blue carbon ecosystem (carbon sequestration) function.

The *Policy* creates two “protection zones”. Zone A is the most sensitive zone and includes tidal watercourses, coastal marshes, and dyked land.<sup>73</sup> The *Policy* has a list of projects and activities that are allowed in Zone A with a Watercourse and Wetland Alteration permit and/or an environmental impact assessment certificate of determination or approval. It also has a list of activities not allowed in Zone A, including infilling and excavation unless associated with a permissible activity, dredging, beach quarrying, construction of causeways, and construction of groynes.<sup>74</sup> Zone B is a landward zone adjacent to Zone A up to 30 meters wide.<sup>75</sup> If Zone B land is adjacent to a coastal marsh, only activities allowed in Zone A are permitted within 30 meters.<sup>76</sup> A third zone has been considered but not implemented.<sup>77</sup>

**Recommendation:** The New Brunswick *Coastal Areas Protection Policy* should be amended so that lists of activities not permitted in Zone A and B include the destruction of blue carbon ecosystems like salt marshes and seagrass meadows.

The *Policy* has potential to aid in the protection and management of blue carbon ecosystems because of its broad application to the entire coast in New Brunswick. However, the *Policy* does not require blue carbon to be considered as a factor in any current decision-making and will need to be updated to reflect the importance of protecting blue carbon ecosystems.

### 3.2.6 CROWN LANDS AND FORESTS ACT

The New Brunswick *Crown Lands and Forests Act* (in this section, the “*Act*”) deals with the management, development, utilization, and protection of Crown lands – lands owned by the province of New Brunswick – with a large focus on governance of forested land and timber. The *Act* gives the Minister of Natural Resources and Energy Development (in this section, the “*Minister*”) responsibility over resources on Crown lands, including habitat for the maintenance of fish and wildlife populations.<sup>78</sup>

The *Act* allows the Minister to purchase or sell Crown lands and issue leases and licences for activities on Crown lands, which means all or any part of the lands vested in the Crown that are under the administration and control of the Minister, including any water upon or under the surface of such lands.<sup>79</sup> Activities for which leases are provided under the *Act* include agriculture and institutional leases for human development, which may include activities impacting blue carbon ecosystems.<sup>80</sup> The *Act* also prohibits certain activities – for example, dredging, excavation, infilling, construction, dumping, or harvesting – on Crown lands, and gives the Lieutenant-Governor in Council (the “*LGiC*”) broad authority to create regulations related to the management of Crown lands.<sup>81</sup>

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72. *Ibid*, at page 3.

73. *Ibid*, at page 4.

74. *Ibid*, at page 5-6.

75. *Ibid*, at page 6.

76. *Ibid*, at page 6.

77. *Ibid*, at page 8.

78. *Crown Lands and Forests Act*, SNB 1980, c C-38.1, at subsection 3(1)(c).

79. *Ibid*, at sections 1 and 23.

80. *Lands Administration Regulation*, NB Reg 2009-62, at section 8.

81. *Crown Lands and Forests Act*. For general prohibitions, see subsection 71(1); for regulation-making authority, see subsection 95(1).

The *Act* is relevant to the management and protection of blue carbon ecosystems because it sets out a general regime for the management of Crown lands that works in conjunction with other provincial legislation. It is noteworthy that the *Act* does not require the Minister to consider impacts on blue carbon ecosystems before issuing a lease or licence under the *Act*. Furthermore, provincial policies like the provincial coastal areas or wetland conservation policies, which should guide government decision-making with respect to salt marshes or seagrass meadows, are silent about the Minister's obligations under the *Crown Lands and Forests Act*. Considering that the minister responsible for the conservation policies is not the same minister responsible under the *Act*, the policies would benefit from explicit guidance where the general governance of land, through issuance of leases or licences, may impact blue carbon ecosystems.

**Recommendation:** The New Brunswick *Coastal Areas Protection Policy* and *Wetland Conservation Policy* should be amended to provide specific guidance about how the Minister of Natural Resources and Energy Development should assess impacts to blue carbon ecosystems when providing leases or licences under the *Crown Lands and Forests Act*.

### 3.2.7 QUARRIABLE SUBSTANCES ACT

The *Quarriable Substances Act* (in this section, the "*Act*") sets out requirements for peat exploration and peat leases. It is administered by the Department of Natural Resources and Renewable Energy.

New Brunswick is the leading producer of peat in Canada.<sup>82</sup> The *Act* is relevant to blue carbon because it applies to Crown lands and any "shore area", which is any portion of land 300 meters below and above the ordinary high water mark of any pond, lake, river, or body of water, including any bed, bank, beach, shore, dune, bar, flat, or mud flat on that portion of land.<sup>83</sup> This could potentially make a "shore area" apply to areas far beyond areas otherwise captured by the *New Brunswick Wetlands Conservation Policy* or the *Coastal Areas Protection Policy*. A shore area can be designated by the Lieutenant-Governor in Council by regulation.<sup>84</sup>

The *Act* prohibits any person from taking or removing more than one-half cubic meters of peat from Crown lands, except when in accordance with the *Act*.<sup>85</sup> The Minister of Natural Resources and Energy Development (in this section, the "*Minister*") may grant a peat exploration licence, which authorizes its holder to conduct field tests to determine the quality and quantity of peat in an area.<sup>86</sup> Depending on the area (the threshold being 40 hectares), the Minister may call for tenders or accept applications from interested parties.<sup>87</sup> A holder of a peat exploration licence may further apply for a peat lease, which authorizes the taking or removal of peat from Crown lands; the Minister must approve the applicant's feasibility study report with a "reclamation plan" before issuing a peat lease.<sup>88</sup>

New Brunswick has a *Peat Mining Policy* that guides decision-making for peat extraction and sets out the requirements for a reclamation plan. Under the Policy, the Minister will decide whether to proceed with a request for proposals;<sup>89</sup> a proposal is evaluated by a three-member inter-departmental committee consisting of representatives from the Department of Energy and Mines and the Department of Economic Development.<sup>90</sup> It is the policy of the Department to "maximize the benefits of using peat, a non-renewable resource, by

82. New Brunswick Department of Energy and Mines, "Peat Mining Policy" (September 2014), online: <[https://www2.gnb.ca/content/dam/gnb/Departments/en/pdf/Minerals-Minerales/Peat\\_Mining\\_Policy-e.pdf](https://www2.gnb.ca/content/dam/gnb/Departments/en/pdf/Minerals-Minerales/Peat_Mining_Policy-e.pdf)> ["**Peat Mining Policy**"], at page 2.

83. *Quarriable Substances Act*, SNB 1991, c Q-1.1, at subsection 1(1).

84. *Ibid*, at subsections 2(1) and 4(1).

85. *Ibid*, at section 35.

86. *Ibid*, at subsection 8(1).

87. *Ibid*, at subsection 8(1.2); see also *General Regulation – Quarriable Substances Act*, NB Reg 92-92, online: <<https://laws.gnb.ca/fr/showpdf/cr/93-92.pdf>>, at section 6.1.

88. *Quarriable Substances Act*, at section 9.

89. *Peat Mining Policy*, at page 5.

90. *Ibid*, at page 6.

promoting increased processing in the Province of New Brunswick and by addressing the issue of post-mining site reclamation”.<sup>91</sup>

In 1999, the Government of New Brunswick conducted an “extensive review” of provincial policies related to the peat industry and created the *Provincial Peat Policy on Peat Mining*. The *Act* and its regulation were amended in 2004 to accommodate the new policy regime on peat mining.<sup>92</sup> The primary shift in focus of the new provincial policies was towards reclamation of peatlands. A reclamation plan – a requirement for all peat leases issued under the *Act* – must be approved by the Minister. “Reclamation” is defined as “a series of actions that include the stabilization of the soil surface, assurance of public safety, aesthetic improvement, and usually a return of the land to what, within the regional context, is considered to be a useful purpose”.<sup>93</sup>

All reclamation plans must be developed to ensure that peatlands used for peat mining are restored to a “natural wetland habitat”. An alternative economic use of the land may be considered, “provided the basic wetland function of the peatland is preserved”.<sup>94</sup>

**Recommendation:** New Brunswick’s *Peat Mining Policy* should identify that salt marshes, which may contain peat, play an important role as carbon sinks. The policy should recognize that salt marshes cannot be restored through reclamation efforts.

### 3.3 FISHERIES AND AQUACULTURE

The province of New Brunswick has some jurisdiction over matters pertaining to fisheries and aquaculture. Generally, only angling is managed provincially in New Brunswick.

Aquaculture in New Brunswick, like in Nova Scotia and Newfoundland, is regulated by the province, and applies to both aquatic plants and animals, including in areas that may have blue carbon ecosystems. There is no specific regulation of the harvesting of rockweed or other marine plants in New Brunswick.

Fisheries and aquaculture are governed primarily under the *Fish and Wildlife Act* and the *Aquaculture Act* (2011), respectively, and are overseen by the Department of Aquaculture and Fisheries (in this section, the “Department”). A new *Aquaculture Act* was assented to on December 20, 2019, but was not in force on the date of this report.

#### **Finding:**

Despite there being a prolific aquaculture industry in New Brunswick and the potentially devastating impacts that aquaculture can have on coastal ecosystems, there is essentially no requirement within the provincial regulatory regime to assess the impacts of aquaculture on ecosystem functions like carbon sequestration. In New Brunswick, the regulatory regime emphasizes promotion of aquaculture and its development, which signals a desire within the province to limit the scope of protection for the environment. Therefore, it is unlikely that blue carbon will be managed or protected under the provincial aquaculture regime. However, although the *Act* and the *Regulation* do not require consideration of aquaculture impacts on blue carbon ecosystems, the Minister or registrar could refuse to issue aquaculture licences, leases, or permits if blue carbon ecosystems were considered ecologically and environmental sensitive areas.

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91. Peat Mining Policy, at page 2.

92. *Ibid*, at page 3.

93. *Ibid*, at page 4.

94. *Ibid*, at page 8.

The *Fish and Wildlife Act* is used to manage angling within the province, and powers available under the *Act* to protect the environment do not apply to plant species like seagrass meadows.

### 3.3.1 AQUACULTURE ACT (2011)

The New Brunswick *Aquaculture Act* (in this subsection, the “*Act*”) encourages, promotes, and implements programs to establish or develop fisheries and aquaculture in the province. “Aquaculture” is defined under the *Act* as “the cultivation of aquatic plants and animals”.<sup>95</sup> “Aquatic plants and animals” are further defined as “plants and animals that have water as their natural habitats at all stages of their life cycles”.<sup>96</sup> As such, in addition to aquaculture having potential impacts on blue carbon ecosystems that are best managed under the provincial legislation, the legislation in the province could also apply directly to harvesting of blue carbon ecosystem species.<sup>97</sup>

Under the *Act*, no person may carry out aquaculture without an aquaculture licence (a “*licence*”).<sup>98</sup> A person wishing to obtain a licence must provide the registrar responsible for aquaculture with information required by regulation created under the *Act*.<sup>99</sup> A licence is issued when an applicant has fulfilled the requirements of the *Act* and regulations, and the registrar may only refuse to issue a licence in accordance with regulation.<sup>100</sup> Under the *General Regulation – Aquaculture Act* (in this section, the “*Regulation*”), the registrar may refuse to issue, renew, or amend an aquaculture licence if, in the opinion of the registrar, it would cause undue conflict with other fishery activities permitted under provincial or federal law, or with “ecologically and environmentally sensitive areas”.<sup>101</sup> For the same reasons, the Minister may refuse to issue an aquaculture lease or occupation permit.<sup>102</sup> There is no definition or criteria for “ecologically and environmentally sensitive areas” in the *Act* or *Regulation*, and the new *Aquaculture Act* does not mention the term.

**Recommendation:** All blue carbon ecosystems should be considered “ecologically and environmental sensitive areas” within the scope of the New Brunswick *Aquaculture Act* and its regulations. Furthermore, subsection 11(b) of the New Brunswick *General Regulation – Aquaculture Act* (which allows the registrar or Minister to refuse to issue, renew, or amend an aquaculture licence, aquaculture lease, or occupation permit, as applicable, where doing so would cause undue conflict with ecologically and environmental sensitive areas) should be carried over into the new *Aquaculture Act* regime so that the registrar or Minister may continue to refuse licences where there are impacts to blue carbon ecosystems.

The Lieutenant-Governor in Council (the “*LGiC*”) has authority to make regulations addressing several matters falling under the *Act*, including the method of allocating licences, the information required for a licence, the terms and conditions of a licence, and the grounds for refusal to issue a licence.<sup>103</sup> Similar authority exists under the new *Aquaculture Act*.<sup>104</sup> In addition to the terms and conditions imposed by the *Regulation*, the registrar may make a licence subject to terms and conditions like measures to minimize the risk of environmental degradation.<sup>105</sup> These powers could be used to limit impacts of aquaculture on blue carbon ecosystems by

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95. *Aquaculture Act*, RSNS 2011 c 11 [“**NB Aquaculture Act**”], at section 1.

96. *Ibid.*

97. Note: Under the new *Aquaculture Act* which is not in force, “aquaculture” is defined as the “farming of aquatic organisms for commercial or scientific purposes”.

98. *NB Aquaculture Act*, at section 6.

99. *NB Aquaculture Act*, at section 7.

100. *Ibid.*, at section 8.

101. *General Regulations – Aquaculture Act*, NB Reg 91-158, at subsection 11(b).

102. *Ibid.*, at subsection 25(1).

103. *NB Aquaculture Act*, at subsections 49(1)(e), (g), (h), and (i), respectively.

104. *Ibid.*, at subsection 90(1).

105. *Ibid.*, at subsection 13(1)(e).



allowing the registrar or Minister to impose conditions where aquaculture activities are occurring in or near blue carbon ecosystems.

The Department has an application guide for marine aquaculture projects for eastern New Brunswick. Based on the guide, all applications are subject to an interagency review that is coordinated by the Department; the review agencies include provincial departments (Natural Resources and Renewable Energy, and Environment and Local Government), as well as federal departments (Fisheries and Oceans Canada, Transport Canada, Public Works, and Environment and Climate Change Canada).<sup>106</sup> Each department provides comments and recommendations about areas over which they have responsibilities.<sup>107</sup> Other departments and agencies may also be involved, depending on the circumstances of the project.<sup>108</sup> During these interagency reviews, policies on coastal areas or wetlands (as discussed above) that reflected blue carbon sequestration ecosystem function, could help reviewing agencies better assess impacts of aquaculture on blue carbon ecosystems.

### 3.3.2 FISH AND WILDLIFE ACT

The New Brunswick *Fish and Wildlife Act* is primarily used to regulate recreational hunting, trapping, fishing, and the sale of wildlife species. The Act allows the Lieutenant-Governor in Council (“LGiC”) to make regulations for all manner of issues related to fish and wildlife, including to set apart, designate, and manage wildlife refuges, wildlife management areas, or wildlife management zones within the province.<sup>109</sup> However, because the definition of “wildlife” within the Act only includes vertebrate animals and birds and not plant species, it has limited application for management or protection of salt marshes or seagrass meadow species.

## 3.4 SPECIES AND HABITAT PROTECTIONS

New Brunswick has various laws that allow the government to designate species or habitat as protected, which provide an additional layer of legal protection from certain activities or developments and could provide opportunities to manage or protect blue carbon ecosystems.

The primary statutes that enable species and habitat protection in New Brunswick are the *Parks Act*, *Protected Natural Areas Act*, and *Species at Risk Act*, which are all administered by the Department of Natural Resources and Renewable Energy (in this section, the “Department”).

### **Findings:**

There are various mechanisms available in the *Parks Act*, *Protected Natural Areas Act*, and *Species at Risk Act* to protect blue carbon ecosystems. These mechanisms take the form of broad discretion to create or enable regulations under these laws and to protect and manage habitat and species; however, to date, that discretion has not been used in a broad manner.

There is no effective policy within New Brunswick that guides species and habitat protection in a cumulative and collaborative manner. Each species and habitat protection law exists independently of other legislation, which makes it difficult to offer robust protection to ecosystems – including those that serve a blue carbon function – in a provincially cohesive manner.

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<sup>106</sup>. Department of Agriculture, Aquaculture and Fisheries, “Application Guide – Marine Aquaculture (East Coast)” (October 2011) at page 9.

<sup>107</sup>. *Ibid.*

<sup>108</sup>. *Ibid.*

<sup>109</sup>. *Fish and Wildlife Act*, SNB 1980, c F-14.1, at subsections 118(1)(d) and (e).

### 3.4.1 PARKS ACT

The New Brunswick *Parks Act* is designed to dedicate select provincial lands as provincial parks for the residents and future generations of the province. Provincial parks are created for the purposes of permanently protecting ecosystems, biodiversity, and elements of cultural and natural heritage, providing opportunities for education activities and appreciation of the heritage of the province, and offering tourism opportunities.<sup>110</sup> As such, a provincial park could be created for the purpose of protecting a blue carbon ecosystem.

The Minister can grant a lease, with approval from the Lieutenant-Governor in Council (the “LGIC”), or, a licence, privilege, or concession with respect to a provincial park.<sup>111</sup> However, staking, drilling, mining, and quarrying is prohibited in all provincial parks.<sup>112</sup> The LGIC may take measures to protect flora in a provincial park<sup>113</sup> and has the discretion to create regulations for various other matters pertaining to provincial parks, including: the general care, preservation, improvement, control and management of provincial parks; the use of lands in provincial parks; trades, businesses, occupations and other activities in provincial parks; and, prohibiting or regulating any activity within the prescribed shore area or waters contiguous to a provincial park, to the extent allowed under the Act and its regulations.<sup>114</sup> The *General Regulation* was created under the *Parks Act*.<sup>115</sup> Alongside other restrictions and prohibitions for recreational activities, it prohibits any person from removing sand, gravel, or “other aggregate material” from a provincial park.<sup>116</sup> “Aggregate material” is not defined and could include blue carbon ecosystem soil or subsoil materials.

For each provincial park created under the *Parks Act*, the Minister of Natural Resources and Renewable Energy (in this subsection, the “Minister”) must create a resource management plan that identifies different zones and resource protection measures, outlines the use and development of resources within a park, and provides other relevant information.<sup>117</sup> The provincial government established a Public Planning Advisory Committee and a First Nations Advisory Committee to assist in guiding the management planning process for creating resource management plans.<sup>118</sup> The terms of reference for the public advisory committee are still under development, and no resource management plans exist currently.

**Recommendation:** Each provincial park resource management plan in New Brunswick should include protection measures for blue carbon ecosystems and outline how each ecosystem will be managed.

### 3.4.2 PROTECTED NATURAL AREAS ACT

The New Brunswick *Protected Natural Areas Act* creates protected nature areas primarily for conservation purposes. Protected nature areas limit or prohibit human interference with diverse wildlife and plants. The purpose of the Act is to protect land that is representative of ecosystems in the province, contains unique, rare, or endangered fauna or flora, or contains ecologically sensitive fauna, flora, or habitats.<sup>119</sup> “Endangered species” are defined as those listed within the province’s *Species at Risk Act*, but there is no definition for “unique” and “ecologically sensitive”.

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110. *Parks Act*, RSNB 2011, c 202 [“**NB Parks Act**”], at section 3.

111. *NB Parks Act*, at sections 11(1) and 11(2).

112. *Ibid*, at subsection 22(1).

113. *Ibid*, at section 21.

114. *Ibid*, at subsections 23(2)(a), (d), (l), and (q), respectively.

115. *General Regulation*, NB Reg 85-104.

116. *Ibid*, at section 18.

117. *NB Parks Act*, at subsection 10.1.(1).

118. New Brunswick Department of Tourism, Heritage and Culture, “Provincial Parks Management Plans”, online: <<https://www2.gnb.ca/content/gnb/en/departments/thc/ParksandAttractions/content/provincial-parks-management-plans.html>>

119. *Protected Natural Areas Act*, SNB 2003, c P-19.01 [“**NB Protected Natural Areas Act**”], at section 3.

A protected natural area is established through regulation by the LGiC, on the Minister's recommendation, and will be designated as "Class I" or "Class II".<sup>120</sup> In a Class I protected natural area, people are prohibited from entering or carrying out activities.<sup>121</sup> In a Class II protected natural area, certain activities are prohibited, including aquaculture, quarrying, boring and drilling, excavation, industrial and commercial activities, and disturbing, destroying, altering or damaging an ecosystem.<sup>122</sup> The LGiC has the power, on the Minister's recommendation, to make regulations further prohibiting activities in a Class II protected natural area.

**Recommendation:** Blue carbon ecosystems should be recognized as "unique" or "ecologically sensitive" within the regime created by the New Brunswick *Protected Natural Areas Act* because of their ability to sequester carbon. This ecosystem function could be recognized and defined through a provincial blue carbon policy.

### 3.4.3 SPECIES AT RISK ACT

The objective of the New Brunswick *Species at Risk Act* is to facilitate the identification, assessment, recovery, and protection of species at risk in the province. This process includes listing species at risk, assessing the feasibility of recovery for the listed species, developing recovery or management plans, and enabling legal protections.<sup>123</sup> The Committee on the Status of Species at Risk (in this section, the "Committee"), which is appointed by the Minister, is meant to assess the biological status of species and make recommendations to the Minister, who is then required to establish a list of species at risk.<sup>124</sup>

The Committee is meant to provide recommendations to the Minister on which species to add to the species at risk list; this means that the Committee would need to assess whether a blue carbon ecosystem species should be added to the list. There are no mechanisms available in the *Species at Risk Act* to enable listing of an entire ecosystem; however, if a species at risk lives within a blue carbon ecosystem, then the Minister can decide to designate recovery habitat or survival habitat for that species and recommend to the LGiC that the habitat be designated.<sup>125</sup> A recovery or survival habitat is created through regulation.

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120. *Ibid*, at section 5.

121. *Ibid*, at section 11.

122. *Ibid*, at subsection 12(a). Note that disturbance, destruction, alteration, or damage of an ecosystem is potentially permitted if it is "necessarily incidental to an activity that may be lawfully carried out": see subsection 12(1)(xii).

123. *Species At Risk Act*, RSNB 2012, c 6 ["NB SARA"]; see also East Coast Environmental Law, "Protected on Paper Only: An Evaluation of New Brunswick's Legal Obligations under the *Species at Risk Act*" (September 15, 2020), at page 2.

124. NB SARA, at sections 8-18.

125. NB SARA, at section 27.

## PART 4 – NEWFOUNDLAND & LABRADOR

Newfoundland and Labrador’s environmental assessment regime offers some indirect opportunities for projects that impact blue carbon ecosystems to be assessed. For example, projects that will extract peat, aquaculture projects, and projects affecting coastal areas like estuaries are all kinds of projects that are likely to impact blue carbon ecosystems and that require an environmental assessment. Unlike some other Atlantic provinces, no environmental assessment is required for alteration of wetlands of any size.

There is no law in Newfoundland and Labrador that deals with wetland protection. Unlike other Atlantic provinces with an equivalent environmental statute, the province’s *Environmental Protection Act* does not specifically prohibit the alteration or destruction of wetlands. Under the province’s *Water Resources Act*, the Minister may control and determine the use of wetlands in situations where there may be impacts on hydrology of the wetland.<sup>126</sup> The province’s *Policy for Development in Wetlands* is heavily focused on developing, rather than protecting, wetlands. Unlike the other Atlantic provinces, Newfoundland and Labrador has no goal to prevent loss of wetland or wetland function. This does not bode well for blue carbon ecosystems, especially since their blue carbon sequestration ecosystem function is not recognized in the province’s law or policy.

Newfoundland and Labrador fisheries and aquaculture laws offer almost no opportunities to steward or protect blue carbon ecosystems. There are no regulations for rockweed or seagrass harvesting. However, aquaculture operations may be required to undergo environmental assessments.

The Newfoundland and Labrador *Wilderness and Ecological Reserves Act* offers potential opportunities to protect blue carbon ecosystems through designation as wilderness reserves or ecological reserves. However, blue carbon ecosystems would need to be recognized as containing “representative” or “unique” ecosystems, species, or natural phenomena.

### 4.1 ASSESSING PROJECT IMPACTS

In Newfoundland and Labrador, environmental assessment (“EA”) is used to assess the potential impacts of certain large projects on the environment before they are carried out. The objective of an EA is to anticipate and assess the adverse effects of a project, predict whether effects will be significant, and design measures to eliminate or mitigate adverse effects where possible. Depending on the extent of a project’s adverse effects, the project may be denied approval through the EA process and not be allowed to proceed.

Provincial EAs in Newfoundland and Labrador are administered by the Department of Municipal Affairs and Environment (in this section, the “Department”) under the *Environmental Protection Act* and its *Environmental Assessment Regulations* (the “*Regulations*”). As we discuss in more detail below, an additional EA regime administered by the Nunatsiavut Government applies to Labrador Inuit Lands within the province, and that regime intersects with the provincial EA process when both processes are triggered.

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126. *Water Resources Act*, SNL 2002 c W-4.01 [“*NLWRA*”], at section 30(2).

## **Finding:**

There is no legal requirement in Newfoundland and Labrador's EA regime to assess project impacts on blue carbon ecosystems or their ability to sequester carbon, and, unlike other provinces like New Brunswick and Nova Scotia, there is no trigger for environmental assessment where wetlands are altered. However, there are various triggers under the *Regulations* that could pertain to projects that impact blue carbon ecosystems, namely: projects that will extract peat; aquaculture projects; and projects affecting coastal areas like estuaries. Within individual EA processes, where projects may impact blue carbon ecosystems, participants and proponents are free to comment on or assess those impacts. However, there is no legal requirement for the EA Branch of the Department to consider that information as part of its review. The release of blue carbon could be considered a significant environmental effect and be the basis on which an approval is denied or for which additional mitigate conditions are imposed.

### **4.1.2 ENVIRONMENTAL ASSESSMENT REGULATIONS**

If a project is listed in Part III (Designated Undertakings and Exceptions) of the *Regulation*, the project proponent must register the project, called an "undertaking", with the Department. No person can proceed with an undertaking without first undergoing an EA.<sup>127</sup> Upon registration, the undertaking is reviewed and is either released or required to undergo additional steps in the EA process. The *Regulation* does not require an assessment of projects that impact carbon sequestering ecosystems and does not require an assessment of impacts or contributions to climate change.

Undertakings listed in Part III of the *Regulation* that are relevant to blue carbon ecosystems include the following: any project engaged in farm raising fish or shellfish in captivity, or any construction of shore-based facilities other than wharves and storage buildings;<sup>128</sup> any project extracting and collecting peat where the project will take up an area more than 2 hectares;<sup>129</sup> any project impacting watercourses, including construction of a breakwater more than 100 metres in length, construction of a dyke, levee, or other flood control structure, construction of a canal or other artificial waterway wider than 3 metres, drainage of land more than 50 hectares, and land reclamation or infilling of an underwater area where a portion is within an estuary or the area is more than 5 hectares;<sup>130</sup> and, any project modifying more than one kilometre of a watercourse.<sup>131</sup>

After a project is registered with the Department, the Minister of Municipal Affairs and Environment (the "Minister") must make an initial determination about whether the undertaking is contrary to law or policy.<sup>132</sup> If the Minister determines that an undertaking is contrary to law or policy, the Lieutenant-Governor in Council (the "LGiC") may direct that the undertaking cannot proceed.<sup>133</sup> As is discussed below, there are no policies that protect blue carbon ecosystems outright, and the provincial policy on wetlands conservation does not recognize these types of ecosystems or their ecosystem function.

**Recommendation:** Environmental assessments in Newfoundland and Labrador could be effective at preventing large projects from impacting blue carbon ecosystems if the province had a coastal ecosystem or blue carbon ecosystem policy that prohibited the destruction of blue carbon ecosystems, or if the province's *Policy for Development in Wetlands* recognized carbon sequestration

127. *Environmental Protection Act*, SNL 2002, C E-14.2 ["**NL EPA**"], at section 48.

128. *Environmental Assessment Regulations, 2003*, NL Reg 54/03 ["**NL EAR**"], at section 29.

129. *Ibid*, at section 33(4). More generally, peat is also captured if a project will include extraction of a quarry material (defined in the *Quarry Materials Act* as including peat), where the operation covers more than 10 hectares. See also NL EAR, at subsection 33(3); *Quarry Materials Act, 1998*, SNL 1998 c Q-1.1, at subsection 2(1)(j).

130. NL EAR, at subsection 35(4).

131. NL EAR, at subsection 36(1)(c).

132. NL EPA, at section 50.

133. *Ibid*, at subsection 50(2).

as a wetland function and had a goal of achieving no net loss of wetland function. Such policies would help the Minister or Lieutenant-Governor in Council to determine whether a project affecting a blue carbon ecosystem was contrary to law or policy.

If an undertaking is not contrary to law or policy, the Minister must then consider if there is an environmental or public concern about the project or if the environmental effects will be mitigated under another provincial or federal law.<sup>134</sup> If there is insufficient detail to determine the significance of the environmental effects, or if there may be significant negative environmental effects or significant public concern, the Minister must require an environmental preview report or environmental impact statement, respectively.<sup>135</sup> An “environmental effect” is a change in the present or future environment that would result from an undertaking.<sup>136</sup> The *Act* and *Regulation* do not define “significant”, although the *Regulation* provides a list of factors the Minister may consider when deciding whether there are significant negative environmental effects, including whether or not emissions, discharges, or effluent may exceed limits imposed by law.<sup>137</sup>

There is no requirement for proponents to consider or assess the impacts of their undertakings on blue carbon ecosystems or the ability of these ecosystems to sequester carbon. The province’s *Environmental Assessment – A Guide to the Process* (in this section, the “*Guide*”) does not require a proponent to consider their undertaking’s carbon footprint. However, the *Guide* does indicate that one or more component studies may be required if a project is required to undergo an Environmental Impact Statement (the most rigorous process available in the province), which would require gathering data and evaluating valuable ecosystem components that may be significantly affected; this could include impacts on blue carbon ecosystems.<sup>138</sup>

**Recommendation:** The Newfoundland and Labrador *Environmental Assessment – A Guide to the Process* should require proponents to consider their undertaking’s carbon footprint, including the emissions released by alteration or destruction of a blue carbon ecosystem and the cumulative loss of carbon sequestration functionality.

## 4.2 DEVELOPMENT AND PLANNING

There are several laws and policies in Newfoundland and Labrador that govern general aspects of the environment, including coastal ecosystems. These laws and policies could be used to protect or manage blue carbon ecosystems in some instances.

### **Finding:**

There is no law in Newfoundland and Labrador that deals with wetlands protection. Unlike other Atlantic provinces, Newfoundland and Labrador’s key environmental statute, the *Environmental Protection Act*, and corresponding policies do not prohibit the alteration or destruction of wetlands. Under the province’s *Water Resources Act*, the Minister may control and determine the use of wetlands in situations where there may be impacts on hydrology of a wetland, but there are otherwise limited opportunities to manage and protection blue carbon ecosystems using general development and planning legislation in the province.<sup>139</sup>

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134. *Ibid*, section 23.

135. *Ibid*, at sections 24 and 25.

136. *Ibid*, at section 2(o).

137. *Ibid*, at subsection 25(2)(e).

138. Newfoundland and Labrador, Department of Environment, Climate Change and Municipalities, “Environmental Assessment – A Guide to the Process” (September 2020), online: < <https://www.gov.nl.ca/ecc/files/env-assessment-a-guide-to-the-process.pdf> >, at page 6.

139. *NLWRA*, at subsection 30(2).



#### 4.2.1 ENVIRONMENTAL PROTECTION ACT

The Newfoundland and Labrador *Environmental Protection Act* (in this subsection, the “*Act*”) governs many environmental issues, including releases of substances, waste disposal and management, contaminated sites, pesticides, EA, and general industrial approvals. The Department of Municipal Affairs and Environment administers the *Act*.

While many of the subjects falling within the scope of the *Act* have some bearing on the management and protection of blue carbon ecosystems, there are no provisions that are designed to manage blue carbon specifically. Moreover, unlike complementary environmental laws in Nova Scotia, New Brunswick, and Prince Edward Island, the *Environmental Protection Act* does not prohibit alteration of wetlands or other coastal features like salt marshes and estuaries.

#### 4.2.2 LABRADOR INUIT LAND CLAIMS AGREEMENT

In 2005, the Nunatsiavut Government, Government of Newfoundland and Labrador, and Government of Canada finalized the *Labrador Inuit Land Claims Agreement* (in this subsection, “the *LILCA*” or “the *Agreement*”), which is a modern treaty established through the Government of Canada’s Comprehensive Land Claims process. Section 35 of Canada’s *Constitution Act, 1982*, recognizes and affirms the Inuit rights set out within the *LILCA*, which include several governance rights that may inform Inuit stewardship of coastal areas covered by the *Agreement*.

The *LILCA* establishes the Labrador Inuit Settlement Area in which various Inuit rights are recognized. Within the Labrador Inuit Settlement Area are specific lands that the *Agreement* recognizes as Labrador Inuit Lands. The *Agreement* recognizes Inuit ownership (in fee simple) of Labrador Inuit Lands, and it also recognizes extensive, but not unlimited, Inuit jurisdiction to govern Labrador Inuit Lands in accordance with Inuit governance structures and Inuit laws.

The Labrador Inuit Settlement Area includes extensive coastal territories and tidal waters, and the Labrador Inuit Lands which Inuit own and govern under the *LILCA* are also predominantly coastal. The intricacies of the *Agreement* establish several intersections between the jurisdictions that the Government of Canada, Government of Newfoundland and Labrador, and Nunatsiavut Government can exercise in coastal and marine ecosystems in areas covered by the treaty. To give just some examples: Chapter 6 of the *Agreement*, which addresses Ocean Management, requires consultation with the Nunatsiavut Government before a federal or provincial Minister finalizes a strategy for the management of estuarine, coastal, and marine areas that would apply directly to such areas within the Labrador Inuit Settlement Area.<sup>140</sup> Likewise, if a Minister who is empowered to develop and manage Marine Protected Areas (“MPAs”) proposes to develop a system of MPAs that would apply to estuarine, coastal, and marine areas within the Labrador Inuit Settlement Area, or, alternatively, proposes to disestablish or change the boundaries of a MPA within the Labrador Inuit Settlement Area, the Minister must consult the Nunatsiavut Government first.<sup>141</sup>

The *LILCA* also empowers the Nunatsiavut Government to establish and implement an environmental assessment regime imposing Inuit environmental laws within Labrador Inuit Lands.<sup>142</sup> The Nunatsiavut Government has since enacted the *Nunatsiavut Environmental Protection Act*,<sup>143</sup> which, among other things, establishes an environmental assessment process that applies to projects proposed within Labrador Inuit Lands. Notably, the *Act* recognizes Inuit rights to a safe and healthy environment and also recognizes a

<sup>140</sup>. *Land Claims Agreement Between the Inuit of Labrador and Her Majesty the Queen in Right of Newfoundland and Labrador and Her Majesty the Queen in Right of Canada*, [“**Labrador Inuit Land Claims Agreement**”], at section 6.3.1.

<sup>141</sup>. *Ibid*, at sections 6.4.1 and 6.4.2.

<sup>142</sup>. *Ibid*, at Part 11.3.

<sup>143</sup>. *Nunatsiavut Environmental Protection Act*, N-5 (31-12-2012) [“**NEPA**”].

corresponding duty to protect and promote a safe and healthy environment within Labrador Inuit Lands and the Inuit communities of Hopedale, Makkovik, Nain, Postville, and Rigolet.<sup>144</sup> The environmental assessment process established under the Act is designed to intersect with the respective environmental impact assessment regimes of the Government of Canada and Government of Newfoundland and Labrador, but it imposes several procedural requirements that go beyond what the federal and provincial processes require.

The Nunatsiavut Government's ability, under the *LILCA*, to exercise considerable jurisdiction over coastal Labrador Inuit Lands presents opportunities for Inuit stewardship of blue carbon ecosystems in accordance with Inuit laws. Although Inuit governance powers are less extensive in the portions of the Inuit Settlement Area that are not Labrador Inuit Lands, Inuit rights under the *LILCA* that apply throughout the Labrador Inuit Settlement Area also offer opportunities for collaborative, multi-jurisdictional management of significant coastal areas.

### 4.2.3 LANDS ACT

The *Lands Act* (in this subsection, the "Act") deals with the management, development, and protection of Crown lands in Newfoundland and Labrador and is administered by the Lands Branch of the Department of Fisheries, Forestry and Agriculture (in this subsection, the "Department").

The *Lands Act* provides the Minister of Fisheries, Forestry and Agriculture with incredibly broad authority to reserve and set apart Crown lands not exceeding 100 hectares – or exceeding 100 hectares with approval of the Lieutenant-Governor in Council (the "LGiC") – for the "purpose and the period" set out in an order.<sup>145</sup> Blue carbon ecosystems could be set apart by the Minister using this power under the *Act*.

Furthermore, the LGiC may also, by order, designate an area of the province as a "special management area".<sup>146</sup> There are no criteria or restrictions on these powers; however, the *Act* provides that in a special management area, the LGiC may create regulations that prohibit or impose conditions on activities within the area.<sup>147</sup> There are currently four special management areas in Newfoundland and Labrador: Main River, Marble Mountain, Sunnyside (Bull Arm), and Torngat Mountains. As an example, the purpose of the Main River Special Management Area is the maintenance of the ecological and viewshed integrity of the special management area to maintain the natural and recreational values of the Main River Canadian Heritage River.<sup>148</sup> In the Main River Special Management Area, some forestry, ATV use, hunting and fishing activities are permitted, but mining is prohibited in the special management area.<sup>149</sup> This broad power could be used to establish protected blue carbon ecosystem areas that manage or prohibit human activity and development.

### 4.2.4 WATER RESOURCES ACT

The Newfoundland and Labrador *Water Resources Act* (in this section, the "Act") is designed for the control and management of water resources in the province and is administered by the Department of Municipal Affairs and Environment.

Since the *Act* is primarily concerned with water as a resource and sets a licencing regime for those seeking to divert or use water, it has limited scope for the stewardship and protection of blue carbon ecosystems generally, although it may be applicable for protecting salt marshes. The Minister may control and determine the use of wetlands in situations where there may be impacts on hydrology of a wetland or its recreational, aesthetic, or other natural functions and uses.<sup>150</sup> Additionally, the Lieutenant-Governor in Council may make

144. *NEPA*, at section 1.4.2.

145. *Lands Act*, SNL 1991, c 36, at section 8.

146. *Ibid*, at section 57.

147. *Ibid*, at subsection 59(1).

148. *Main River Special Management Area Regulation*, NL Reg 62/09, at section 4.

149. *Ibid*, at sections 6, 7, 9, and 11.

150. *NLWRA*, at section 30(2).

regulations respecting the use and modification of wetlands, the drainage of wetlands, and drainage of peat lands for mining of peat.<sup>151</sup>

Several policy directives have been created under the authority of the *Water Resources Act*, including the *Policy for Development in Shore Water Zones* and the *Policy for Development in Wetlands*, which both establish criteria for permits for undertakings that are issued under section 48 of the *Act*. An “undertaking” is defined in the *Act*: it includes any activities or works that develop, transport, transmit, distribute, or utilize water, or effect the flow of water.<sup>152</sup>

#### 4.2.5 POLICY FOR DEVELOPMENT IN SHORE WATER ZONES

The *Policy for Development in Shore Water Zones* (in this subsection the “*Policy*”) is used to establish criteria for permits needed for activities in a shore water zone, which is the interface between land and water, including along the edge of an ocean.<sup>153</sup> The objective of the *Policy* is to minimize potential economic losses and impacts on water quality and quantity and terrestrial and aquatic habitats from permitted developments.<sup>154</sup> Developments not permitted under the *Policy* include infilling, drainage, dredging, and removal of surface and underwater vegetation on or along shore water zones that aggravate flooding, cause unmitigable adverse water quality impacts, or lead to sediment deposition or accretion.<sup>155</sup> There is no prohibition on permits for activities that impact the integrity of coastal ecosystems.

**Recommendation:** Section 5.2 of the Newfoundland and Labrador *Policy for Development in Shore Water Zones* should be amended to prohibit permits, issued under section 48 of the *Water Resources Act*, for activities that will infill, drain, dredge, channel, or remove the surface or underwater vegetation on or along shore water zones that are a blue carbon ecosystem.

#### 4.2.6 POLICY FOR DEVELOPMENT IN WETLANDS

The *Policy for Development in Wetlands* (in this subsection the “*Policy*”) is used to establish criteria for permits needed for development activities in or affecting wetlands. The objective of the *Policy* is to permit developments in wetlands that do not adversely affect the water quantity or quality, hydrologic characteristics or functions, and terrestrial and aquatic habitats of wetlands.<sup>156</sup> Unlike the *Policy for Development in Shore Water Zones*, this *Policy* has a greater focus on encouraging development instead of mitigating against adverse impacts. This is made explicit in the *Policy*'s introduction:

The problem facing wetland management is that the ecological and socio-economic benefits of these ecosystems are usually not directly measurable and in many instances are not recognized until it is too late. The extensive nature of wetlands, peatlands in particular, in this province means that there is room for more developments to occur to meet social and economic needs, as long as hydrologic and environmental impacts are minimized.

[Underlining added]

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151. *Ibid*, at subsections 64(tt) and (vv).

152. *Ibid*, at subsection 2(1)(x).

153. Newfoundland and Labrador Environment and Climate Change, “Policy for Development in Shore Water Zones” (January 2001), at section 1.0.

154. *Ibid*, at section 2.0.

155. *Ibid*, at subsection 5.2.

156. Newfoundland and Labrador Environment and Climate Change, “Policy for Development in Wetlands” (January 2001) [“**NL PDW**”], at sections 1.0 and 2.0.

The *Policy* defines wetlands as including bogs, fens, marshes, swamps, and shallow water. Permits are issued under the *Water Resources Act* for all “water rights”, which means the use, withdrawal, or diversion of water. There is a registry, and only one current permit specifically mentions a wetland (“dewatering” of wetland for a quarry pit project, issued in 2017 and expiring in 2022).<sup>157</sup>

Developments that are not permitted include: activities that could aggravate flooding problems or have unmitigable adverse water quality or hydrologic impacts; development of wetlands located within the recharge zones of groundwater wells; and, dumping of sewage or industrial wastes that has potential to impair water quality.<sup>158</sup> Other activities may be permitted with written permission from the Minister, including: removal of surface vegetation or drainage peat harvesting, agricultural and forestry activities; construction of roads, bridges, culverts, pipelines, “etc”, residential, commercial, or industrial buildings, recreational activities; and construction of flow control structures. That is the extent of the *Policy*. There are no principles or factors to guide the Minister’s decision-making about whether to approve or deny an application.

**Recommendation:** Section 5.2 of the Newfoundland and Labrador *Policy for Development in Wetlands* should be amended to prohibit permits, issued under section 48 of the *Water Resources Act*, for activities that will infill, drain, dredge, channel, or remove the soil or organic cover of wetlands that are part of a blue carbon ecosystem.

#### 4.2.7 QUARRY MATERIALS ACT

The *Quarry Materials Act* (in this subsection, the “*Act*”) deals with quarriable materials, including peat, and is administered by the Department of Industry, Energy and Technology.

The *Act* prohibits any person from excavating, digging, removing, or carrying away quarry material from Crown land unless a permit (for not more than 1 year) or lease (longer term) is obtained.<sup>159</sup> A permit is also available to quarry, excavate, remove, and dispose of quarry material from a beach.<sup>160</sup>

The *Quarry Materials Regulation* created under the *Act* provides discretionary power to the Minister of Industry, Energy and Technology to determine areas within the province that are not available for issuance of quarry permits or exploration licences. These areas may be set aside for purposes including protecting environmentally sensitive areas.<sup>161</sup>

**Recommendation:** The Minister should exercise his discretion under the *Quarry Materials Regulation* to prohibit issuance of quarry permits in blue carbon ecosystems.

#### 4.2.8 URBAN AND RURAL PLANNING ACT

The *Urban and Rural Planning Act* (in this subsection, the “*Act*”) governs municipal planning and land use in Newfoundland and Labrador and is administered by the Department of Municipal Affairs and Environment (in this subsection, the “*Department*”) and Service Newfoundland and Labrador.

The *Act* allows the Minister of Municipal Affairs and Environment (in this subsection, the “*Minister*”) to recommend to the Lieutenant-Governor in Council (the “*LGiC*”) the development and establishment of a land

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157. Viewable in the Newfoundland and Labrador Water Use Licence Mapping Application, online: <<https://www.gov.nl.ca/ecc/waterres/permits/water-use/>>

158. NL PDW, at section 5.1.

159. *Quarry Materials Act*, SNL 1998, c Q-1.1, at subsections 5(1), 8(1), and 22(1).

160. *Ibid*, at section 7.

161. *Quarry Materials Regulations*, Consolidated Newfoundland and Labrador Reg 804/96, at subsection 5(1)(a). Note that this does not include quarry leases.

use policy for the province, a particular area in the province, or a particular type of land use.<sup>162</sup> There is currently no such land use policy for the province.

The *Act* also provides the Minister with the authority to declare an area outside of a municipality as a protected area to preserve an area of natural beauty or amenity.<sup>163</sup> The term “amenity” is not defined and has not been considered by the courts. Arguably, a blue carbon ecosystem function might be considered a natural amenity that would allow the Minister to declare an area which has a blue carbon ecosystem as a protected area. There are currently two protected areas under the *Act*: the Gander River and Marble Mountain protected areas.

As an example, the Gander River protected area was created through a regulation established under the *Act*.<sup>164</sup> An order by the LGiC authorizes the Minister to create plans and schemes necessary for conservation and development in the area and prohibits anyone from taking any action or undertaking any development conflicting with the approved protected area plan.<sup>165</sup> The *Gander River Protected Area Regulations* further set out governance of the protected area and provide criteria for the Development Control Division of the Department to consider when issuing permits for activities within the area.<sup>166</sup> The *Gander River Area Protected Area Plan*, which was prepared and approved under a previous version of the *Urban and Rural Planning Act*, further guides stewardship within the protected area; its goal is to conserve the resources and plan for the orderly development of the protected area.<sup>167</sup>

While the powers available under the *Act* may allow the Minister to declare blue carbon ecosystems as protected areas because of their ability to sequester carbon, which may or may not be considered a (natural) amenity, the power is limited to areas outside of a municipality. Furthermore, species and habitat legislation in the province may provide more appropriate avenues for protecting blue carbon ecosystems.

### 4.3 FISHERIES & AQUACULTURE

The province of Newfoundland and Labrador has some jurisdiction over matters pertaining to fisheries and aquaculture; however, only sport fishing is managed provincially. As in New Brunswick and Nova Scotia, aquaculture is regulated by the province and applies to both aquatic plants and animals, including in places that may have blue carbon ecosystems. There is no specific regulation of harvesting of rockweed or other marine plants in Newfoundland and Labrador.

Fishing is governed primarily under the *Fisheries Act* and the *Professional Fish Harvesters Act*, which are focused on licencing rather than managing or regulating the act of fishing itself or its impacts on the environment, which are within the exclusive jurisdiction of the federal government. As such, these statutes are not canvassed in this document. Aquaculture is governed under the province’s *Aquaculture Act*. All these statutes are administered by the Department of Fisheries and Land Resources (in this section, the “Department”).

#### **Finding:**

Assessment of the impacts of aquaculture is largely left to the provincial EA process, rather than being considered within the licencing regime under the province’s *Aquaculture Act*.

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<sup>162</sup>. *Urban and Rural Planning Act*, 2000 SNL 2000 c U-8, at sections 3 and 4.

<sup>163</sup>. *Ibid*, at subsection 31(1)(b).

<sup>164</sup>. *Gander River Protected Area*, Consolidated Newfoundland and Labrador Reg 765/96.

<sup>165</sup>. *Gander River Protected Area Order*, Consolidated Newfoundland and Labrador Reg 766/96, at sections 3 and 6.

<sup>166</sup>. *Gander River Protected Area Regulations*, Consolidated Newfoundland and Labrador Reg 767/96.

<sup>167</sup>. Government of Newfoundland and Labrador, “Gander River Area Study Protected Area Plan” (September 1989), online: <<https://www.gov.nl.ca/ecc/files/Gander-River-Protected-Plan-and-Regs.pdf>>

### 4.3.1 AQUACULTURE ACT

The Newfoundland and Labrador *Aquaculture Act* (in this subsection, the “*Act*”) governs the conduct of aquaculture in the province, including the farming of aquatic plants,<sup>168</sup> with the objectives of promoting the industry, securing property rights for those conducting aquaculture, minimizing conflicts with competing interests, and facilitating cooperation with the federal government.<sup>169</sup>

No person in Newfoundland and Labrador may carry out aquaculture without an aquaculture licence issued under the *Act*.<sup>170</sup> There are no criteria in the *Act* that guide the Minister of Fisheries and Land Resources (the “*Minister*”) during the application process, other than the discretionary authority to refuse an application if, in the opinion of the Minister, it is “in the public interest” to do so.<sup>171</sup> The Minister may establish committees, consisting of members of the Department, aquaculture industry, and “others”, to advise them of laws, policies, programs, and activities to aid in the development of aquaculture.<sup>172</sup> There is no legislative imperative to do so, and committees are not meant to provide advice about environmental or ecological risks.

On each application, an Aquaculture Licence Committee will review the application summary and make a recommendation to the Minister to approve, reject, or approve in principle.<sup>173</sup> The approval process for an aquaculture licence does not include an assessment of the site, nor an assessment of risks for the environment (assessments are focused on fish health).<sup>174</sup> This is likely because aquaculture is assessed provincially under the *Environmental Assessment Regulations* (see above). There is no provincial legislation regarding seaweed harvesting in the province.<sup>175</sup>

## 4.4 SPECIES AND HABITAT PROTECTIONS

Newfoundland and Labrador has various laws allowing the government to designate and protect areas and specific species within the province. These protections can provide an additional layer of legal protection from certain activities or developments, providing opportunities to better manage or protect blue carbon ecosystems.

### **Finding:**

There are various mechanisms available under the *Provincial Parks Act*, the *Wilderness and Ecological Reserves Act*, and the *Wildlife Act* to protect blue carbon ecosystems. These mechanisms allow the responsible minister to use broad discretion to create or enable regulations under these laws to manage and protect habitat and species. The statute that provides the most comprehensive protection is the *Wilderness and Ecological Reserves Act*. If blue carbon ecosystems were recognized or designated as a “representative” or “unique” ecosystem, species or natural phenomena they could be protected under the Act.

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168. *Aquaculture Act*, RSNL 1990, c A-13, at subsection 2(a).

169. *Ibid*, at section 3.

170. *Ibid*, at subsection 4(1).

171. *Ibid*, at subsection 7.1.

172. *Ibid*, at section 10.

173. Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture, “Aquaculture Policy and Procedures Manual” (September 2019), online: <<https://www.gov.nl.ca/ffa/files/licensing-pdf-aquaculture-policy-procedures-manual.pdf>>, at page 26.

174. *Ibid*.

175. In email correspondence (February 2, 2019) with Dr. Robert Hooper, an expert in seaweed ecology and Associate Professor at the Department of Biology at Memorial University in St. John’s, Newfoundland, Dr. Hooper expressed his concern at the lack of federal and provincial government expertise in the area. He noted that when there was commercial seaweed harvesting in the province many years ago, the DFO applied the same regulations they developed for the Maritimes for the harvest of rockweed, kelp, dulse, and Irish moss. Dr. Hooper expressed that seaweed resources are “relatively limited” due to the “very little tidal range and steep shore slope which provide very little habitat for *Ascophyllum* or dulse.” He added that “much of the province is impacted by heavy ice scour which scrapes off most seaweeds [and that it is] too cold for rapid growth of temperate seaweeds like Irish moss”.



There is no policy within Newfoundland and Labrador that guides species and habitat protection in a cumulative and collaborative manner. Each species and habitat protection law exists independently of other legislation, which makes it difficult to offer robust protection to ecosystems – including those that serve a blue carbon function – in a provincially cohesive manner.

#### 4.4.1 PROVINCIAL PARKS ACT

The Newfoundland and Labrador *Provincial Parks Act* (in this subsection, the “*Act*”) is designed to dedicate lands as provincial parks. Dedication as a provincial park protects land against certain listed activities and development. The *Act* is administered by the Department of Tourism, Culture, Arts and Recreation.

The *Act* does not specify any objectives or goals that help to guide or define what parks can or should be, which makes it broadly relevant for stewardship and protection of blue carbon ecosystems. The Minister of Tourism, Culture, Arts and Recreation is enabled by the *Act* to make regulations that designate provincial parks and provide for their management.<sup>176</sup> The *Provincial Parks Regulations* provide most of the substantive protection to parks, including by prohibiting removal, harm, hunting, chasing, destruction, or damage to any animate (including plants and animals)<sup>177</sup> or inanimate objective in the boundaries of any provincial park.<sup>178</sup> The general prohibition is broad and would include destruction or damage to a blue carbon ecosystem if contained within the boundary of a provincial park.

**Recommendation:** The Newfoundland and Labrador Minister of Tourism, Culture, Arts and Recreation should exercise their discretion under the *Provincial Parks Act* to create one or more parks that protect blue carbon ecosystems.

#### 4.4.2 WILDERNESS AND ECOLOGICAL RESERVES ACT

The Newfoundland *Wilderness and Ecological Reserves Act* (in this subsection, the “*Act*”) is designed to enable the identification and setting aside of natural areas within the province for the benefit, education, and enjoyment of the province’s people. The *Act* applies to all land, including those parts covered by water. It is administered by the Department of Environment, Climate Change and Local Government.

Under the *Act*, the Lieutenant-Governor in Council may set aside areas of the province as wilderness reserves, which are areas where little or no human activity is allowed,<sup>179</sup> and ecological reserves, which are areas that contain a representative or unique ecosystem, species, or natural phenomena.<sup>180</sup> The terms “representative” and “unique” are not defined in the *Act* or its regulations. In both kinds of reserve, the *Act* prohibits certain activities and the destruction or removal of plants and animals.<sup>181</sup> The *Wilderness Reserve Regulations* and the *Botanical Ecological Reserve Regulations* (among others) create further prohibitions on activities within their respective reserves. However, ecological reserves are particularly relevant for the management and protection of blue carbon ecosystems because of the focus on “ecosystems” and because one of the purposes set out in the *Act* for ecological reserves is to “preserve rare botanical, zoological, geological, or geographical characteristics”.<sup>182</sup>

**Recommendation:** Blue carbon ecosystems should be considered as a unique ecosystem under the Newfoundland and Labrador *Wilderness and Ecological Reserves Act*.

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176. *Provincial Parks Act*, RSNL 1990, c P-32, at section 8.

177. *Provincial Park Regulations*, NL Reg 91/97, at section 2(b).

178. *Ibid*, at subsection 3(1).

179. *Wilderness and Ecological Reserves Act*, RSNL 1990, c W-9, at section 4.

180. *Ibid*, at section 5.

181. *Ibid*, at subsection 24(3)(b).

182. *Ibid*, at subsection 5(e).

### 4.4.3 WILDLIFE ACT

Newfoundland and Labrador's *Wildlife Act* is primarily used to regulate recreational hunting, trapping, and fishing, as well as the sale of wildlife species, and is administered by the Department of Fisheries, Forestry and Agriculture.

Under the *Act*, the Minister is responsible for the management and control of measures for the protection, preservation, and propagation of wildlife, and may create a wildlife park where captive live animals may be exhibited and where public, private, and governmental activities are permitted in accordance with the *Act* and its regulations.<sup>183</sup> The *Act* applies to wildlife, which includes wild animals fish and birds, but not plants.<sup>184</sup> This, combined with the other available options to protect areas of the province, means that the *Act* is less likely to be used to facilitate stewardship and protection of blue carbon ecosystems.

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183. *Wildlife Act*, RSNL 1990 c. W-8, at section 5.

184. *Ibid*, at section 2(q).

## PART 5 – NOVA SCOTIA

Nova Scotia's environmental assessment regime has a similar project list as other provincial provinces, which lists projects that require environmental assessments. While no projects require an assessment solely for impacting blue carbon ecosystems, some project types are indirectly relevant for blue carbon ecosystems; for example, projects that affect two or more hectares of wetlands will require an environmental assessment.

Nova Scotia prohibits wetland alterations without approval. The process, which is set out in the *Environment Act* and its *Physical Activities Designation Regulations*, is guided by the province's *Wetland Conservation Policy*. One of the goals of the policy is to have no loss of Wetlands of Special Significance (which includes salt marshes) and no net loss in area and function of other wetlands. If blue carbon sequestration was recognized as a wetland function, blue carbon ecosystems would be provided with an additional level of (non-legal) protection against wetland alterations.

The province's *Coastal Protection Act* (not yet in force) is unique in Atlantic Canada (and in the country generally) as being the only legislated coastal regime directed at protecting the coast. However, the Act provides few protections for coastal ecosystems, and it is unlikely that pending regulations will establish additional protections for blue carbon ecosystems.

Nova Scotia's *Environmental Goals and Climate Change Reduction Act* sets out legislated goals for the province. Future amendments could include blue carbon ecosystem stewardship or protection goals.

Nova Scotia fisheries and aquaculture laws offer some limited opportunities to steward or protect blue carbon ecosystems. Specifically, the aquaculture review board process, which is used to assess applications for new aquaculture licences or amendments to existing licences, may provide opportunities to assess aquaculture impacts on blue carbon ecosystems. Nova Scotia also regulates rockweed harvesting and the responsible minister can close off coastal areas to harvesting.

There are various potential opportunities in Nova Scotia to protect blue carbon ecosystems through species and habitat laws. Specifically, protection could be offered through designation as provincial parks and park reserves, wilderness areas, and nature reserves. The province's *Our Parks and Protected Areas: A Plan for Nova Scotia* is meant to aid with coordination of provincial conservation efforts. If it was updated, it could be used to set out priority stewardship and protection goals for blue carbon ecosystems. Additionally, if the blue carbon sequestration ecological function was recognized in the province's *Wetlands Conservation Policy*, it would help guide government decision-making in wetlands and coastal areas under various regimes in the province, and blue carbon ecosystem protection could become a conservation priority.

## 5.1 ASSESSING PROJECT IMPACTS ON NOVA SCOTIA'S BLUE CARBON ECOSYSTEMS

In Nova Scotia, environmental assessment (“EA”) is used to assess the potential impacts of certain proposed projects on the environment before they are carried out. The objective of an EA is to anticipate and assess the adverse effects of a project, predict whether effects will be significant, and design measures to mitigate against these adverse effects where possible. Depending on the extent of a project’s adverse effects, the project may be denied approval through the EA process and not be allowed to proceed.

EAs in Nova Scotia are administered by the Department of Environment and Climate Change (in this section, the “Department”) under the *Environment Act* and its *Environmental Assessment Regulations* (in this section, the “Regulations”). EA is also guided by various guides.

### **Finding:**

Some individual projects that may have adverse impacts on blue carbon ecosystems would be captured by the provincial EA process, but many would be missed. Environmental assessment as a process does not require assessment of comprehensive or cumulative effects of projects on blue carbon ecosystems.

### 5.1.1 ENVIRONMENTAL ASSESSMENT REGULATIONS

In Nova Scotia, if a project is a type of project listed in Schedule A of the *Regulations*, it must be registered for an EA. The *Regulations* do not require an assessment of a project for the specific reason that it impacts a blue carbon ecosystem or causes impacts or contributions to climate change. However, there are types of projects that trigger an EA that are relevant for stewardship and protection of blue carbon ecosystems; for example, facilities that extract or process peat or peat moss, and any project that disrupts a total of 2 or more hectares of wetland, require an EA.<sup>185</sup> In the context of projects impacting wetlands, there continues to be uncertainty about the approach taken by the Department where a project disrupts two or more wetlands whose total area is equal or greater than two hectares, but where the area of each individual wetland is less than two hectares.

For every project that trigger an EA, the proponent must provide the Department with an Environmental Assessment Registration Document. The Minister of Environment and Climate Change (in this section, the “Minister”) will examine the registration information and may request more information from the proponent if the registration document is insufficient.<sup>186</sup> Otherwise, the Minister will make a determination on the application, including: a Focus Report is required; an Environmental Assessment Report is required; that the project is approved without further steps; or, that the project is rejected because of the likelihood that it will cause adverse effects or environmental effects that cannot be mitigated.<sup>187</sup> Any project that is a Class II undertaking will be required to submit an Environmental Assessment Report and undergo a Review Panel process; however, none of the Class II undertakings are particularly relevant for stewardship or protection of blue carbon ecosystems.

In deciding on a project, the Minister must consider the potential or known adverse effects or environmental effects stemming from the project.<sup>188</sup> It should be noted that the Department will require proponents to consider project impacts on wildlife species and habitat and on climate change if a project has triggered an EA.

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185. *Environmental Assessment Regulations*, NS Reg 26/1995, at Appendix A.

186. *Ibid*, at sections 9(1A) and 11.

187. *Environment Act*, SNS 1994-95, c 1 [“*NSEA*”], at section 34.

188. *Ibid*, at section 12.

The *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia* (in this section, the “*Guide*”) is meant to provide guidance to proponents about how proponents should assess climate impacts. The *Guide* provides a general principle that “all projects should assess their carbon footprint, review possible options to reduce greenhouse gas emissions, and assess any impacts the project may have on carbon sinks”.<sup>189</sup> The *Guide* notes that scoping for carbon footprint should include three greenhouse gas emissions categories: direct emissions, indirect emissions, and carbon sinks.<sup>190</sup> The *Guide* acknowledges that wetlands act as carbon sinks.<sup>191</sup>

**Recommendation:** The *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia* should be amended to recognize blue carbon ecosystems aside from wetlands (i.e., salt marshes) as carbon sinks and require proponents to assess their project impacts on these ecosystems.

The Nova Scotia *Environmental Goals and Climate Change Reduction Act* (see subsection 5.2.6 below), which came into force on November 5, 2021, establishes provincial goals respecting climate change mitigation and adaptation and the reduction of greenhouse gas emissions; one of the provincial government’s goals is to modernize the environmental assessment process by 2024, taking into consideration factors that include cumulative impacts and climate change.<sup>192</sup>

**Recommendation:** Nova Scotia should require an environmental assessment for any project that will impact a blue carbon ecosystem, similar to the way that projects affecting wetlands required an EA. This change could be part of a review of the environmental assessment regime in Nova Scotia. It could be implemented by adding the requirement to Schedule A of the *Environmental Assessment Regulations* or an analogous project list.

## 5.2 DEVELOPMENT AND PLANNING FOR NOVA SCOTIAN COASTAL ECOSYSTEMS

Like the other Atlantic provinces, Nova Scotia does not have a comprehensive coastal law and does not have any laws that explicitly deal with stewardship or protection of blue carbon ecosystems. Instead, Nova Scotia has a series of laws and policies that deal with different aspects of blue carbon ecosystem stewardship and management, with responsibility over blue carbon ecosystems shared between the Department of Environment and Climate Change, Department of Natural Resources and Renewables, and Department of Fisheries and Aquaculture.

### **Finding:**

The piecemeal regulation of the environment using multiple laws and policies, which overlap with one another with respect to stewardship and protection of blue carbon ecosystems, presents a barrier to stewarding and protecting blue carbon ecosystems in Nova Scotia.

### 5.2.1 AGRICULTURAL MARSHLANDS CONSERVATION ACT

The *Agricultural Marshlands Conservation Act* (in this subsection, the “*Act*”) is designed for the management and conservation of agricultural marshland and is administered by the Department of Agriculture.

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189. Nova Scotia Environment, “Guide to Considering Climate Change in Environmental Assessments in Nova Scotia” (February 2011), at page 4.

190. *Ibid.*, at page 7.

191. *Ibid.*, at page 2.

192. *Environmental Goals and Climate Change Reduction Act*, SNS 2021, c 20, at section 12.

The *Act* empowers the Minister of Agriculture (in this subsection, the Minister), subject to the approval of the Governor in Council, to construct works to develop marshland for agricultural purposes. Marshland is any land that is subject to periodic tidal flooding or is designated by the Minister as such.<sup>193</sup> Salt marshes may be marshland for the purposes of the *Act*.

The *Act* allows for the creation of marsh bodies, which consist of the owners of marshlands and are approved by an Agricultural Marshland Conservation Commission. The commission has responsibilities such as advising the Minister on conservation and protection of marshlands and their development, as well as approving rules made by marsh bodies for work done in marshlands.<sup>194</sup> There are no restrictions or criteria with respect to which marshes can be used as agricultural marshlands, and there appears to be no guidance with respect to restricting projects in marshlands in coastal areas that may also be blue carbon ecosystems.

## 5.2.2 BEACHES ACT

The *Beaches Act* (in this subsection, the “*Act*”) is designed to protect certain designated beaches along the coastline of Nova Scotia in perpetuity for the benefit, education, and enjoyment of present and future generations.<sup>195</sup> It is administered by the Department of Natural Resources and Renewables.

The purpose of the *Act* is to protect beaches and associated dune systems.<sup>196</sup> Not all beaches in Nova Scotia are designated as a protected “beach” under the *Act*; instead, specific beaches, both on Crown land and privately owned land, are designated through regulation to receive protection. Beaches include the area of land on the coastline to the seaward side of the mean high watermark and the area landward to the distance set out in a beach’s regulation.<sup>197</sup> There are currently 92 designated beaches in Nova Scotia, with the most recent designation made over twenty years ago.<sup>198</sup>

In designated beaches, certain activities are restricted or prohibited. The *Act* also prohibits removal of sand, gravel, stone or “other material” from a beach<sup>199</sup> and prohibits willful destruction of property or natural resources on a beach.<sup>200</sup> In addition to the general prohibitions set out in the *Act*, the Governor in Council has the power to make regulations for the preservation, control, and management of beaches and can take steps to preserve and protect flora and fauna on a beach by making regulations.<sup>201</sup> For example, the *Beaches Regulations* currently prohibit the removal, defacing, or injuring of any natural object, tree, shrub, plant, or grass.<sup>202</sup> Development is also not allowed on a beach without written authorization and approval from the Minister.<sup>203</sup>

Since there are no criteria otherwise defining the ecological or geological features of a “beach” under the *Act*, any blue carbon ecosystem on coastal Crown land could be designated, and therefore protected, under the *Act*. The prohibitions in the *Beaches Regulations* against removal or injuring of shrubs, plants, and grass should extend to blue carbon ecosystem species like rockweed or seagrass.

**Recommendation:** The Nova Scotia Department of Environment and Climate Change should consider designating one or more coastal areas in Nova Scotia that are home to a blue carbon ecosystem – either a salt marsh or seagrass meadow – as a beach under the *Beaches Act*.

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193. *Agricultural Marshlands Conservation Act*, SNS 2000, c 22, at sections 2(f), 4.

194. *Ibid*, at sections 8 and 11.

195. *Beaches Act*, RSNS c 32, s 1, at subsection 2(1).

196. *Ibid*, at subsection 2(2).

197. *Ibid*, at subsection 3(a).

198. *Beaches Act*. See also East Coast Environmental Law, “Who Owns the Coast” Summary Series, vol. IV, (August 2018), at page 3.

199. *Beaches Act*, at subsection 6(1).

200. *Ibid*, at subsection 8(1).

201. *Ibid*, at subsection 13.

202. *Beaches Regulation*, NS Reg 70/1989, at section 7.

203. *Ibid*, at section 6.



### 5.2.3 COASTAL PROTECTION ACT

The *Coastal Protection Act* (in this subsection, the “*Act*”) is a law that was proclaimed in 2019 but is not yet in force. When it comes into force, it will govern human development and activity along the province’s coast and will be administered by the Department of Environment and Climate Change (in this subsection, the “*Department*”).

The objective of the *Act* is to prevent developments and activities that damage the environment by interfering with the natural dynamic and shifting nature of the coast and put humans at risk from climate-accelerated challenges like coastal erosion.<sup>204</sup> The *Act* will create a “Coastal Protection Zone” (the “*CPZ*”) around the entire province and will restrict or prohibit activities and development within that zone. The boundaries of the CPZ will be set out in regulations that are currently being developed by the Department. It is anticipated that there will be two components to the CPZ: a portion that is seaward of the ordinary high-water mark that will extend to the edge of provincial Crown land and a portion that is landward of the ordinary high-water mark.<sup>205</sup>

The *Act* creates two prohibitions that are particularly relevant for stewardship and protection of blue carbon ecosystems. It prohibits anyone from carrying on an activity in the CPZ that interferes with the “natural dynamic and shifting nature of the coast” and prohibits any person from altering a wetland in the CPZ.<sup>206</sup> The first prohibition could be used to protect salt marshes and seagrass meadows, while the second prohibition creates additional layers of protection that can be used in conjunction with the prohibition in the *Environment Act* against altering a wetland, like a salt marsh (see subsection 4.2.4 below).

Although the purpose of the *CPA* is to protect the province’s coast for future generations by preventing development and activity in locations adjacent to the coast, the *CPA* is narrowly focused on regulating human activities and development along the coast, which limits its usefulness for comprehensive coastal protection.

**Recommendation:** The Nova Scotia Department of Environment and Climate Change should recognize the specific and important function of blue carbon ecosystems because they fall squarely within the scope of the *Coastal Protection Act* and its protections within the coastal protection zone. The regulations currently being created for the *Coastal Protection Act* should include explicit protections for blue carbon ecosystems.

### 5.2.4 ENVIRONMENT ACT

The *Environment Act* (in this subsection, the “*Act*”) deals with a variety of environmental issues in Nova Scotia, including environmental assessment (discussed above in section 4.1), general industrial approvals, release of substances and waste, dangerous goods, pesticides, contaminated sites, air quality, and water resources, including watercourses and wetlands. It is administered by the Department of Environment and Climate Change.

Although many aspects of the *Act* may affect stewardship and protection of blue carbon ecosystems, provisions related to water resource and wetland management are particularly relevant. Under the *Act*, the Minister of Environment and Climate Change (in this subsection, the “*Minister*”) has supervision of the use of all water resources and watercourses and the allocation of water in the province. A water resource is defined as “all fresh and marine waters comprising of all surface water, groundwater and coastal water”,<sup>207</sup> while a watercourse includes the bed and shore of rivers, ponds, lagoons, and other natural bodies of water, whether or not they contain water.<sup>208</sup> The Minister has a number of powers, including the power to authorize, restrict, or prohibit

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204. *Coastal Protection Act*, SNS 2019, c 3, at section 2.

205. *Ibid.*, at section 8.

206. *Ibid.*, at sections 10 and 11.

207. *NSEA*, at subsection 3(bc).

208. *Ibid.*, at subsection 3(be).

alteration of watercourses and wetlands, establish indicators of aquatic-ecosystem health, and approve watershed protection strategies.<sup>209</sup> Furthermore, the Governor in Council has regulation-making powers over these same issues.<sup>210</sup>

Stewardship and protection of wetlands is governed under the *Act* and, more specifically, its *Activities Designation Regulations*, which require any person wishing to alter a wetland to receive an approval from the Minister or an administrator designated by the Minister.<sup>211</sup> No exemptions from an approval for wetland alteration are provided in the *Act* or the *Activities Designation Regulations*. The province's *Wetlands Conservation Policy* (see subsection 4.2.5 below) is meant to guide the wetlands alterations permitting process.

**Recommendation:** The Nova Scotia Minister of Environment and Climate Change should not approve any wetland alteration if the wetland being altered is a blue carbon ecosystem like a salt marsh.

### 5.2.5 WETLANDS CONSERVATION POLICY

On October 14, 2011, the Government of Nova Scotia released the *Nova Scotia Wetland Conservation Policy* (the "*WCP*" or, in this subsection, the "*Policy*"). The *WCP* was created because the provincial *Environmental Goals and Sustainable Prosperity Act* ("*EGSPA*"), as originally passed in 2007, required the government to develop a policy to prevent the net loss of wetlands.<sup>212</sup> Under *EGSPA* (now replaced by the *Environmental Goals and Climate Change Reduction Act*), "net loss of wetlands" meant the net loss of wetland area and function, including habitat.<sup>213</sup>

The *WCP* is meant to be a comprehensive policy for the provincial government to ensure that the benefits that wetlands provide are maintained for the people of Nova Scotia.<sup>214</sup> The policy identifies the legislation, regulations, and policies that are relevant to wetland conservation and provides information about the roles and responsibilities of government and the public to manage and protect wetlands. The *WCP* establishes the overarching government goal of no net loss of wetlands in the province, as well as the goal of no loss in Wetlands of Special Significance and the goal of preventing net loss in area and function for other wetlands.<sup>215</sup> In pursuance of this goal, the *Policy* prohibits wetland alteration approvals for salt marshes, which are identified as Wetlands of Special Significance.<sup>216</sup> However, it is important to highlight that although the *WCP* can guide wetland stewardship and decision-making with respect to development in wetlands, it is not law and cannot replace statutes or regulations. For example, this means that protections offered by the *Policy* for Wetlands of Special Significance are not legally binding and could be changed or removed, quickly and with little or no oversight.

In addition to specific protections, the *WCP* provides information about wetlands that is meant to guide government decision-makers more generally. It sets out the various ecosystem services and functions performed by wetlands, including their ability to store and sequester carbon from the atmosphere.<sup>217</sup> However, the specific blue carbon sequestering function of salt marshes is not explicitly referenced, which makes it difficult for government decision-makers to make informed decisions for salt marshes and potentially prevents assessment of decision-making on blue carbon ecosystem functionality.

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209. *Ibid*, at subsection 105(3).

210. *Ibid*, at subsection 110(1).

211. *Activities Designation Regulations* NS Reg. 47/95 amended to Reg. 120/16, at section 5A.

212. *Environmental Goals and Sustainable Prosperity Act* SNS 2007 c. 7 ["*EGSPA*"], at subsection 4(2)(n).

213. *EGSPA* as it appeared April 2007, at subsection 2(e).

214. Government of Nova Scotia, "Wetland Conservation Policy" (September 2011) ["*WCP*"], online: <<https://novascotia.ca/nse/wetland/docs/Nova.Scotia.Wetland.Conservation.Policy.pdf>> at page 1.

215. *Ibid*, at page 9.

216. *Ibid*, at page 12.

217. *Ibid*, at page 4.

**Recommendation:** The carbon sequestration function of wetlands, and particularly the blue carbon sequestration function of salt marshes, should be explicitly set out in the *Nova Scotia Wetland Conservation Policy*.

Nova Scotia continues to rely on a wetland inventory based on aerial photographs taken between 1985 and 1997 that was produced by the Nova Scotia Department of Natural Resources in 2004.<sup>218</sup> The *WCP* refers to that wetland inventory as the “most up-to-date” estimate of the number and area of different wetland types in the province. It was a goal of the Government of Nova Scotia to update the inventory to assist it and the public in identifying wetlands around the province, but such an update never occurred.<sup>219</sup>

Updated and current information about the state and health of wetlands in Nova Scotia is crucial to ensuring that the province’s no net loss of wetlands goal is met. This is especially so given that there is no process under the *WCP* to monitor or evaluate whether the province is achieving its no net loss of wetlands goal or to assess the impacts of wetland loss on the province’s ecosystems, biodiversity, and climate change commitments.

**Recommendation:** Nova Scotia should endeavor to update its wetlands inventory to better monitor the province’s success in preventing the loss of Wetlands of Special Significance, including salt marshes.

## 5.2.6 ENVIRONMENTAL GOALS AND CLIMATE CHANGE REDUCTION ACT

The *Environmental Goals and Climate Change Reduction Act* (in this subsection, the “*Act*” or “*EGCCRA*”) legislates environmental and climate change related goals for the Government of Nova Scotia. It is administered by the Department of Environment and Climate Change.

Because of its general jurisdiction over its territory, the Government of Nova Scotia has authority and responsibility over the environment and provincial activities related to mitigating climate change. In *EGCCRA*, the Government of Nova Scotia legislated goals for itself in respect of climate change to achieve the long-term objective of sustainable prosperity.<sup>220</sup> The greenhouse gas emissions reduction targets set out in the *Act* are:

(a) by 2030, to be at least 53% below the levels that were emitted in 2005; and

(b) by 2050, to be net zero, by balancing greenhouse gas emissions with greenhouse gas removals and other offsetting measures.<sup>221</sup>

*EGCCRA* also includes other goals related to climate change mitigation and adaptation. Some of the key goals relevant for stewardship and protection of blue carbon ecosystems include the goal to build climate change adaptive capacity and resilience by requiring climate adaptation planning across every government department and the goal to create a strategic plan to address climate change.<sup>222</sup> There are also goals for protection of land, including conservation of at least 20% of the province’s total land and water mass by 2030 as protected areas and other effective area-based conservation measures.<sup>223</sup> Finally, there is a goal to support “low-impact sustainable aquaculture through a licensing process that weighs environmental considerations”.<sup>224</sup> These legislated goals should and can guide the provincial government during its various decision-making processes and when it amends or creates laws that impact blue carbon and blue carbon ecosystems.

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218. *Ibid*, at page 6.

219. *Ibid*, at page 12.

220. *Environmental Goals and Climate Change Reduction Act*, SNS 2021, c 20 [“*EGCCRA*”], at section 5(1).

221. *Ibid*, at section 6.

222. *Ibid*, at subsections 7(d) and 8(1).

223. *Ibid*, at subsection 10(a).

224. *Ibid*, at subsection 14(a).

**Recommendation:** Nova Scotia’s strategic plan to address climate change should include strategies to steward and protect blue carbon ecosystems and set a goal of creating a blue carbon ecosystem policy to guide decision-making. Additionally, the Government of Nova Scotia should endeavor to protect blue carbon ecosystems as part of its conservation goal to protect its land and water mass.

## 5.3 FISHERIES AND AQUACULTURE

In Nova Scotia, the Department of Fisheries and Aquaculture (in this section, the “Department”) is responsible for the regulation of aquaculture, including harvesting of sea plants, under the *Fisheries and Coastal Resources Act* (in this section, the “Act”) and its regulations.

The seaweed harvesting industry in Nova Scotia is small in scale compared to other regions of the world. However, there has been a particular interest in regulating this industry because the province is home to one of the world’s leading seaweed harvesting companies, Acadian Seaplants Limited. It is a multinational company that employs over 350 people in 12 countries.<sup>225</sup> Based in Dartmouth, Nova Scotia, Acadian Seaplants has been granted long-term government leases for seaweed harvesting along the coasts of New Brunswick and Nova Scotia.<sup>226</sup> It operates six large seaweed processing facilities, including four in the Maritimes (located in Yarmouth, Cornwallis, and Charlesville, Nova Scotia, and Pennfield, New Brunswick).<sup>227</sup> It also has substantial seaweed harvesting operations in Ireland, Scotland, and Maine.

### **Findings:**

Unlike the other Atlantic provinces, Nova Scotia regulates certain species of seaweed and has created some legislative protections for seaweed in certain areas of the province. The *Fisheries and Coastal Resources Act* creates a leasing system for harvesting of rockweed and kelp, although it does not apply to other seaweed types that may be harvested, such as Irish moss or dulse. Rockweed is specifically protected and regulated in Nova Scotia by the *Rockweed Harvesting Regulations*, which set conditions under which private individuals and commercial bodies are authorized to harvest rockweed. The regulations require harvesting leases and permits, and they set permitted areas, quotas, and harvesting methods. Additionally, the *Beaches Act* prohibits the removal of seaweeds from public beaches, and other laws subsume seaweeds under statutory definitions of “fish”. These unique aquaculture mechanisms could be used to steward and protect blue ecosystems, especially if they were guided by policies that identified the importance of these ecosystems and their blue carbon sequestration function.

### 5.3.1 FISHERIES AND COASTAL RESOURCES ACT

The *Fisheries and Coastal Resources Act* prohibits any person from carrying out aquaculture without an aquaculture licence. Aquaculture taking place on Crown land also requires an aquaculture lease.<sup>228</sup> When an applicant applies for an aquaculture licence, the Department will consult with other provincial and federal government department and agencies, and other groups and organizations that the Minister of Fisheries and Aquaculture (the “Minister”) considers necessary and will produce a report of the consultations. Then the application is referred to the province’s Aquaculture Review Board (the “ARB”), which will conduct a public hearing on the application.<sup>229</sup> The Minister may then issue a licence or lease in accordance with the ARB’s decision following the hearing.<sup>230</sup>

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225. Acadian Seaplants Limited, “About Acadian Seaplants” (2019), online: <[www.acadianseaplants.com/marine-plant-seaweed-manufacturers](http://www.acadianseaplants.com/marine-plant-seaweed-manufacturers)>.

226. *Ibid.*

227. *Ibid.*

228. *Fisheries and Coastal Resources Act*, SNS 1996, c 25, at section 44.

229. *Ibid.*, at sections 47 and 51.

230. *Ibid.*, section 52(1).

The factors that the ARB considers in each application are set out in the *Aquaculture Licence and Lease Regulations*. They include the following:<sup>231</sup>

- a. the optimum use of marine resources;
- b. the contribution of the proposed operation to community and Provincial economic development;
- c. fishery activities in the public waters surrounding the proposed aquacultural operation;
- d. the oceanographic and biophysical characteristics of the public waters surrounding the proposed aquacultural operation;
- e. the other users of the public waters surrounding the proposed aquacultural operation;
- f. the public right of navigation;
- g. the sustainability of wild salmon; [and]
- h. the number and productivity of other aquaculture sites in the public waters surrounding the proposed aquacultural operation.

There are no definitions or criteria that help to guide the ARB on its decision-making with respect to the eight factors. The ARB has only provided two decisions for aquaculture licences to date, and its approach to interpretation of the factors has been narrow. No submissions with respect to impacts of aquaculture sites on blue carbon ecosystems have yet been made, and given the narrow application of the eight factors to date, it is unlikely that the ARB would consider the impacts of sites on blue carbon ecosystems without specific and clear government policy outlining priorities for the optimum use of coastal areas containing a blue carbon ecosystem.

Under the *Act*, the Minister may issue a lease to an individual or company to harvest sea plants from an area of the “solum”, which is defined as the soil or land lying under the tidal water and extending seaward from the mean high-water mark, including the foreshore.<sup>232</sup> An application for a lease is made to the Minister and must contain the information required by the Minister or required by regulations. The Minister will consider the application based on the “best interests of the province” and can approve or reject it.<sup>233</sup>

The *Rockweed Harvesting Regulations* govern the harvesting of rockweed, and, specifically, the harvesting of the *Ascophyllum nodosum* and *Fucus* species.<sup>234</sup> Under these regulations, there is a general right to harvest rockweed in any area that is not closed and not leased.<sup>235</sup> The Minister may, with the approval of the Governor in Council, close an area to rockweed harvesting if they are satisfied it is in the best interests of the province to do so.<sup>236</sup> An exemption to the prohibition exists for any person who harvests less than 4 tonnes of rockweed annually for agricultural purposes and not for processing or sale.<sup>237</sup> Another exemption exists for harvest up to 1 tonne of rockweed annually for scientific purposes.<sup>238</sup> The regulations provide specific requirements for the manner in which rockweed is harvested.<sup>239</sup>

**Recommendation:** The Nova Scotia Aquaculture Review Board could consider aquaculture site impacts on blue carbon ecosystems as part of its consideration of the optimum use of marine resources, but a clear government policy outlining priorities for blue carbon ecosystems is needed to assist in that undertaking. Such a policy would also be helpful for the Minister of Fisheries and Aquaculture when considering applications for sea plant harvesting.

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231. *Aquaculture Licence and Lease Regulations*, NS Reg 15/2000 amended to NS Reg 186/2019, at section 3.

232. *Ibid*, at subsection 66(1). Definition found in subsection 3(1)(k).

233. *Ibid*, section 68.

234. *Rockweed Harvesting Regulations*, NS Reg 55/2001 amended to NS Reg 239/2016, at section 2.

235. *Ibid*, at section 3.

236. *Ibid*, at subsection 4(1).

237. *Ibid*, at subsection 5(1).

238. *Ibid*, at subsection 5(2).

239. *Ibid*, at section 8.

## 5.4 SPECIES AND HABITAT PROTECTIONS

Nova Scotia has various laws that allow the government to designate species or habitat as protected, which provide an additional layer of legal protection from certain activities or developments and could provide opportunities to manage or protect blue carbon ecosystems.

The primary statutes that enable species and habitat protection in Nova Scotia are the *Crown Lands Act*, *Endangered Species Act*, *Provincial Parks Act*, *Special Places Protection Act*, *Wilderness Areas Protection Act*, which are administered by three different government departments.

### **Finding:**

Of the four Atlantic provinces, Nova Scotia likely has the most cohesive regime for the protection of species and habitats because its nature reserves, wilderness areas, and provincial parks are collectively guided by the Province's *Our Parks and Protected Areas: A Plan for Nova Scotia* (in this section, the "*Plan*"). There is potential for the comprehensive outlook to help shape a cumulative assessment of blue carbon ecosystems and provide a means to protect them in a robust way. The *Plan* could also be used as a model for a potential blue carbon ecosystem policy, which could guide government decision-making in a similar manner as the *Plan* is meant to guide government for

### 5.4.1 CROWN LANDS ACT

The Nova Scotia *Crown Lands Act* (in this subsection, the "*Act*") governs the development of provincial Crown land. It is administered by the Department of Natural Resources and Renewables. Under the *Act*, the Minister of Natural Resources and Renewables (the "Minister") has general supervision, direction, and control of acquisition, administration, protection, and management of Crown lands, including land covered by water that is in the province's jurisdiction.<sup>240</sup> This means that any Crown land that has a blue carbon ecosystem on it that is not governed by other legislation is governed under the *Act*.

The *Act* defines "Crown lands" as all or any part of land under the administration and control of the Minister.<sup>241</sup> This includes most submerged lands or seabeds but does not include pre-confederate water lots, which are private water lots that were granted (given) to third parties by the Crown before confederation in 1867.

One of the *Act's* purposes is to ensure that Crown lands "are sustainably used, protected, and managed to maintain and enhance biodiversity and consider climate change".<sup>242</sup> The Minister is empowered to set aside special areas on Crown lands, including to protect, manage, and conserve wildlife and wildlife habitats, or for such purposes as the Minister deems "expedient".<sup>243</sup> Regardless of whether the Minister sets aside special areas, they must manage wildlife and wildlife habitats on Crown lands.<sup>244</sup> There are no criteria or definitions for what a "special area" is, but the Governor in Council has the authority to create regulations with respect to special areas; none have yet been created.<sup>245</sup> Despite its conservation purpose and available mechanisms, the Minister is not required to consider blue carbon, or effects on blue carbon ecosystems, when making decisions about Crown lands under the *Act*.

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240. *Crown Lands Act*, RSNS 1989, c 114, at section 5.

241. *Ibid*, at section 3(c).

242. *Ibid*, at subsection 2(a).

243. *Ibid*, at subsections 24(e) and 24(f). See also the regulation making power for the Governor in Council in subsection 51(1)(g).

244. *Ibid*, at section 25(1).

245. *Ibid*, at section 51(1)(g).



**Recommendation:** The Governor in Council should create regulations under the *Nova Scotia Crown Lands Act* that provides clarity with respect to how and when “special areas” can be created, and blue carbon ecosystems should be listed as a “special area”.

#### 5.4.2 PROVINCIAL PARKS ACT

The *Provincial Parks Act* is designed to allow for the creation, management, and protection of provincial parks for residents and future generations. One of its objectives is the preservation of unique, rare, representative, or otherwise significant elements of the natural environment.<sup>246</sup> It is administered by the Department of Natural Resources and Renewables.

The *Act* allows for the creation of provincial parks and park reserves, which are Crown lands that are set aside for the purpose of protecting lands that have the potential to become a provincial park.<sup>247</sup> The Minister of Natural Resources and Renewables has broad powers to deal with the management of flora and fauna in provincial parks created under the *Act*, while the Governor in Council has broad power to make regulations for management of provincial parks.<sup>248</sup> The *Act* prohibits various forms of activity and behaviour, including destruction of natural resources, within provincial parks.<sup>249</sup> The broad powers under the *Act* could be used to establish a park or park reserve with an objective of stewarding and protecting one or more blue carbon ecosystems.

#### 5.4.3 SPECIAL PLACES PROTECTION ACT

The *Special Places Protection Act* is designed to protect and manage archeological and historical remains and paleontological sites, as well as ecological sites, including sites that are representative of examples of natural ecosystems within the province or contain rare or endangered native plants or animals in their natural habitats (the “special places”).<sup>250</sup> It is administered by the Department of Communities, Culture, Tourism and Heritage.

The *Special Places Protection Act* creates an Advisory Committee on the Protection of Special Places. Members are appointed to the Committee by the Minister of Communities, Culture, Tourism and Heritage (the “Minister”).<sup>251</sup> The Committee has the power, but is not required, to make recommendations to the Minister about special places, including about the administration, classification, and acquisition of special places, and also about regulations and research related to special places.<sup>252</sup> With approval from the Governor in Council, the Minister can designate any land within the province, including land covered with water, as an ecological site.<sup>253</sup> This applies to private land if the owner consents.<sup>254</sup> Ecological sites are protected from disposal or a grant of rights, such as fishing, forestry, and water rights, under any other provincial law.<sup>255</sup>

A blue carbon ecosystem could be protected under the *Act* by being designated as a special place; however, this would require the Committee to recognize blue carbon ecosystems as being representative of natural ecosystems in the province or containing rare or endangered species.

**Recommendation:** The Nova Scotia Advisory Committee on the Protection of Special Places that is appointed under the *Special Places Protection Act* should recognize that blue carbon ecosystems and the species living there are representative of important natural ecosystems in the province.

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246. *Provincial Parks Act*, RSNS 1989, c 367, at subsection 2(1)(b).

247. *Ibid*, at sections 6(1) and 8.

248. *Ibid*, at sections 13 and 37.

249. *Ibid*, at subsection 33(e).

250. *Species Places Protection Act*, RSNS 1989, c 438, at section 2.

251. *Ibid*, at section 5.

252. *Ibid*, at section 6.

253. *Ibid*, at subsection 14(1).

254. *Ibid*.

255. *Ibid*, at section 18.

#### 5.4.4 WILDERNESS AREAS PROTECTION ACT

The *Wilderness Areas Protection Act* (in this subsection, the “*Act*”) provides for the establishment, management, and protection of designated wilderness areas in the province to promote maintenance of biodiversity, protect representative landscapes and ecosystems, and protect unique, rare, and vulnerable natural features.<sup>256</sup> It is administered by the Department of Environment and Climate Change.

Under the *Act*, the Minister of Environment and Climate Change, with approval of the Governor in Council, may designate an area of Crown land as a wilderness area. These areas are in addition to areas that are already set out in the Schedules of the *Act*.<sup>257</sup> Certain activities of the Crown are prohibited in wilderness area. For example, the province cannot provide a grant, deed, lease, approval, licence, permit, easement, authorization, or permit under any other provincial law.<sup>258</sup> Furthermore, the *Act* prohibits other activities, including mining, energy, petroleum, pipeline, forestry, and aquaculture activities or projects.<sup>259</sup> It also prohibits other activity, including the alteration of the surface of the land, and removal, destruction, or damage of flora or fauna (living or dead), with some limited exceptions.<sup>260</sup>

The wilderness areas created under the *Act* are some of the province’s most restrictive protected areas and could be used to provide a high level of protection to blue carbon ecosystems in the province. Like other species and habitat protections, a wilderness area could be created for a blue carbon ecosystem if the ecosystem fit into one or more of the categories for which the *Act* is designed.

#### 5.4.5 OUR PARKS AND PROTECTED AREAS: A PLAN FOR NOVA SCOTIA

The *Our Parks and Protected Areas: A Plan for Nova Scotia* is meant to guide the Department of Environment and Climate Change and the Department of Natural Resources and Renewables in managing and protecting provincial parks and park reserves, wilderness areas, and nature reserves.<sup>261</sup>

The *Plan* was originally created to implement the conservation goals set out in the *Environmental Goals and Sustainable Prosperity Act*, which was recently replaced by the *Environmental Goals and Climate Change Reduction Act* (see subsection 4.2.6). As such, the *Plan* is now outdated and does not contain current provincial goals or objectives for conservation of land and water (the current goal is 20% protection for the province’s land and water mass). Additionally, the *Plan* does not require any attention paid to stewarding or protecting blue carbon ecosystems.

The *Plan* helps to guide and provide context for the selection of protected areas in the province, using six criteria, including the need to protect representative natural landscapes, protect unique or rare landscapes, plants, or animals, and restore areas that were impacted by past use.<sup>262</sup> The *Plan* highlights that protected lands “lessen the effects of climate change by capturing and storing carbon dioxide and producing oxygen”, but it does not recognize the unique ability of blue carbon ecosystems to sequester carbon.<sup>263</sup>

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256. *Wilderness Areas Protection Act*, SNS 1998, c 27, at section 2.

257. *Ibid*, at section 11.

258. *Ibid*, at subsection 13(1).

259. *Ibid*, at subsection 17(1).

260. *Ibid*, at subsections 17(2) and 19.

261. Government of Nova Scotia, “Our Parks and Protected Areas: A Plan for Nova Scotia” (2013), online: <<https://novascotia.ca/parksand-protectedareas/pdf/Parks-Protected-Plan.pdf>>, at pages 5-6.

262. *Ibid*, at page 9.

263. *Ibid*, at page 11.

The *Plan* has a goal to provide strategic direction to guide planning, management, and operations for protection areas. Two actions under the goal are to complete management planning for all core provincial parks by 2025 and to develop a management planning framework for wilderness areas by 2015 (no management planning framework was identified during our research).<sup>264</sup> The strategic direction envisioned under the *Plan*, in the form of management planning, could enable a pathway for the province to better chart a course for specific ecosystem stewardship and protection, including for blue carbon ecosystems.

**Recommendation:** The *Our Parks and Protected Areas: A Plan for Nova Scotia* should be updated to reflect the province's current conservation goals under the *Environmental Goals and Climate Change Reduction Act*. The *Plan* should provide clearer guidance with respect to which species, habitats, and ecosystems are a priority for protection. It should also identify the ecological functions and services that provincial ecosystems provide, and that should include the important blue carbon sequestration function of blue carbon ecosystems.

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264. *Ibid*, at page 20.

## PART 6 – PRINCE EDWARD ISLAND

Prince Edward Island is unique amongst the Atlantic provinces because it has no legislated project list for environmental impact assessment; instead, a non-binding policy sets out a list of projects normally requiring assessment. This offers flexibility and discretion to the responsible Minister to begin requiring an EIA for all projects that affect blue carbon ecosystems.

Prince Edward Island law and policy most likely allow for protection of blue carbon ecosystems in an incidental manner through two pathways: land use legislation and wildlife-oriented legislation. The concept of blue carbon is not explicitly mentioned in any legislation in Prince Edward Island, and the amount of legislation and policy regarding blue carbon ecosystems is not plentiful. However, there are ways in which blue carbon ecosystems can be stewarded or protected under existing law and policy in the province.

Like other Atlantic provinces, land use legislation in Prince Edward Island allows for the protection of certain areas based on their usage or type. For example, the *Environmental Protection Act* could be used to create regulations for many areas relevant to blue carbon ecosystems. The province's *Water Act* has an objective to support and promote management, protection, and enhancement of water resources. The responsible minister may create protection areas, including either a Water Sustainability Plan Area or an Aquatic Ecosystem Protection Area. These could be used to protect blue carbon ecosystems.

Prince Edward Island does not regulate aquaculture (it is federally regulated) and provincial fisheries laws do not apply to blue carbon ecosystem stewardship and protection.

Wildlife protection legislation in Prince Edward Island could allow for the protection of blue carbon ecosystems as habitats for certain types of wildlife. For example, legislation like the *Wildlife Conservation Act* allows the responsible Minister to coordinate the development and implementation of policies and programs designed to protect and conserve wildlife and wildlife habitat and to develop suitable guidelines and standards to optimize the impacts of land use practices on wildlife and wildlife habitat.

### 6.1 ASSESSING PROJECT IMPACTS

In Prince Edward Island, environmental impact assessment (“EIA”) is used to assess the potential impacts of some proposed projects before they are carried out. The objective of an EIA is to anticipate and assess the adverse effects of a project, predict whether effects will be significant, and design measures to eliminate or mitigate adverse effects where possible. Depending on the extent of a project’s adverse effects, the project may be denied approval through the EIA process and not be allowed to proceed.

EIAs in Prince Edward Island are administered by the Department of Environment, Energy and Climate Action (in this section, the “Department”). The Prince Edward Island *Environmental Protection Act* (in this section, the “Act”) requires an EIA for all “undertakings” as defined in the *Act*, and EIA is guided by the *Environmental Impact Assessment Guidelines* (in this section, the “Guidelines”).

#### **Finding:**

Prince Edward Island is unique amongst the Atlantic provinces because there is no legislated project list; instead, a non-binding policy sets out a list of projects normally required EIA. Environmental Impact Statements require a proponent to indicate any environmental impacts or issues. The *Environmental Impact Assessment*

*Guidelines* also provide the relevant minister with the discretion to approve, require changes to, or deny projects. This flexibility and discretion may present an opportunity for the Minister to begin requiring an EIA for all projects that affect blue carbon ecosystems and would allow the Minister to include conditions for projects undergoing an EIA that aim to steward or protect blue carbon ecosystems.

### 6.1.1 ENVIRONMENTAL IMPACT ASSESSMENT GUIDELINES

Any project that is considered an “undertaking” under the *Act* is subject to the provincial EIA process and requires written approval from the Minister of Environment, Energy and Climate Action (in this section, the “Minister”) before the project can proceed.<sup>265</sup> An “undertaking” is defined as any construction, industry, operation or other project, or any alteration or modification of such a project, that will or may: cause emission or discharge of any contaminant into the environment; affect any unique, rare, or endangered feature of the environment; have a significant effect on the environment or necessitate further development which is likely to have a significant effect on the environment; or, cause public concern.<sup>266</sup>

Under the *Act*, a contaminant can include any gas which is foreign or in excess of natural constituents of the environment, which will or may adversely affect the natural, physical, chemical, or biological quality of the environment, or which is declared by regulation to be a contaminant.<sup>267</sup> Since a contaminant can be any gas, the CO<sub>2</sub> released when blue carbon ecosystems are disturbed or destroyed may be captured by provincial EIA. There is no definition for a unique feature of the environment, and a blue carbon ecosystem could rise to the level of being unique.

The Prince Edward Island *Environmental Impact Assessment Guidelines* provide a non-exhaustive list of undertakings commonly requiring an EIA and an approval from the Minister. Relevant undertakings listed include aquaculture facilities, causeways, and marinas, all of which can directly affect blue carbon ecosystems. If a proponent is unclear about whether a project is considered an undertaking, they should confirm with the Department.<sup>268</sup>

If an EIA is required, the proponent must submit an Environmental Impact Statement, which includes information about the project like potential impacts to the environment. Notably, climate change, climate, and carbon do not appear in the *Guidelines* as considerations for an EIA. If a project is approved, the Minister can add conditions to an EIA approval; this could be used for the benefit and protection of blue carbon ecosystems.<sup>269</sup>

**Recommendation:** Prince Edward Island should require an EIA for all projects impacting a blue carbon ecosystem. This would be facilitated by amending the province’s *Environmental Impact Assessment Guidelines* to include projects that impact a blue carbon ecosystem.

## 6.2 DEVELOPMENT AND PLANNING

There are several laws and policies in Prince Edward Island that govern general aspects of the environment, including coastal ecosystems. These laws could be used to protect or manage blue carbon ecosystems in some instances. Protections potentially available to blue carbon ecosystems include wetlands protections, which are provided under the *Environmental Protection Act*, as well as habitat protection through designation, covenants, and easements under the *Wildlife Conservation Act* and the *Natural Areas Protected Act*.

265. *Environmental Protection Act*, RSPEI 1988, c E-9 [“PEI EPA”], at subsection 9(1).

266. *Ibid*, at subsection 1(p).

267. *Ibid*, at subsection 1(b).

268. Prince Edward Island Department of Environment, Labour, and Justice, “Environmental Impact Assessment Guidelines” (Revised January 2010), online: < [https://www.princeedwardisland.ca/sites/default/files/publications/environmental\\_impact\\_assessment\\_guidelines.pdf](https://www.princeedwardisland.ca/sites/default/files/publications/environmental_impact_assessment_guidelines.pdf)>, at page 5.

269. PEI EPA, at section 28.

## **Finding:**

The *Watercourse and Wetland Protection Regulations* that are created under the province's *Environmental Protection Act* provide extensive and explicit protection to the type of environments where blue carbon ecosystems are situated. Additionally, the province's *Water Act* allows for the stewardship and protection of water resources, which might be extended to blue carbon ecosystems.

### **6.2.1 ENVIRONMENTAL PROTECTION ACT**

The Prince Edward Island *Environmental Protection Act* governs a range of environmental issues including environmental impact assessment (discussed above), waste treatment, contaminants and contaminated sites, and sand dunes and beaches. It is administered by the Department of Environment, Energy and Climate Action.

The *Environmental Protection Act* provides the Minister of Environment, Energy and Climate Action (in this subsection, the "Minister") with broad discretion to act, as they consider necessary, to manage, protect, or enhance the environment or environmental health, including by creating policies, strategies, objectives, and standards, exercising exclusive control of the use, protection, or alteration of watercourses and wetlands, and preserving the environment.<sup>270</sup> For example, the *Watercourse and Wetland Protection Regulations* (see subsection 5.2.2) created under the *Act* prohibit alteration of watercourses and wetlands without an approval.

The *Environmental Protection Act* defines a "wetland" as follows:

- (i) an area which contains hydric soil, aquatic or water-tolerant vegetation, and may or may not contain water, and includes any water therein and everything up to and including the wetland boundary, and
- (ii) without limiting the generality of the foregoing, includes any area identified in the Prince Edward Island Wetland Inventory as open water, deep marsh, shallow marsh, salt marsh, seasonally flooded flats, brackish marsh, a shrub swamp, a wooded swamp, a bog or a meadow.<sup>271</sup>

The *Act* prohibits any activity that will or may alter, remove, or destroy natural stabilizing features of a beach or sand dune, including vegetation, without written permission of the Minister.<sup>272</sup> Since a beach is defined in the *Act* as the portion of the shoreline commencing at the base of a bank or slope where the terrestrial land meets the shoreline, and the seaward extremity of the sand dune up to three miles, this protection afforded to beaches under the *Act* is relevant to blue carbon ecosystems.<sup>273</sup> Beaches are also likely captured by the definition of "watercourse" in the *Act*, and therefore, an activity on a beach will require a watercourse alteration approval.<sup>274</sup>

**Recommendation:** The Prince Edward Island Minister of Environment, Energy and Climate Action should not approve activities on wetlands and watercourses, including on beaches, that interfere with or disrupt blue carbon ecosystems.

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270. *Ibid*, at subsection 3(1).

271. *Ibid*, at subsection 1(1).

272. *Ibid*, at subsection 22(1)(b).

273. Note: The reference to 3 miles may be a historical reference to the 3 nautical mile limit that States used to claim their jurisdiction (tied to international rules of law relating to coastal and marine jurisdiction, which have been modified by the *United Nations Convention of the Law of the Sea*). Practically, the 3-mile limit of a beach may not apply because of federal jurisdiction.

274. PEI EPA, at subsection 1(s). A "watercourse" means an area which has a sediment bed and may or may not contain water, and without limiting the generality of the foregoing, including the full length and width of the sediment bed, bank and shore of any stream, spring, creek, brook, river, lake, pond, bay, estuary or coastal body, any water therein, and any part thereof, up to and including the watercourse boundary.



## 6.2.2 WATERCOURSE AND WETLAND PROTECTION REGULATIONS

The *Watercourse and Wetland Protection Regulations* (in this subsection, the “*Regulations*”) exist under the *Environmental Protection Act* and prohibits anyone from altering a watercourse or wetland, or part of a watercourse or wetland, without a licence or wetland activity permit.<sup>275</sup> They also establish a wetland buffer zone of 15 meters around every wetland, and no one may alter or disturb the soil in that zone without a Buffer Zone Activity Permit.<sup>276</sup>

The *Regulations* contain additional clarification of the terms used in the definition of wetlands. For example, a bog is defined as “a wetland covered by *sphagnum* mosses, with peat underneath”, a meadow is defined as “a wetland that has fluctuating water tables, lacks trees, and is covered in water-tolerant Graminoid vegetation”, a seasonally flooded flat is defined as “a wetland formed by rivers overflowing their banks to a depth of at least 12 inches annually during spring, winter and late fall”, a shrub swamp is defined as “a wetland containing nutrient-rich, highly decomposed woody plants and organic material and has as its dominant cover shrubs and herbaceous vegetation, including but not limited to alders”, and a wooded swamp is defined as “a wetland dominated by water-tolerant trees or shrubs growing in muck soil”.<sup>277</sup> The boundary for a wetland is defined as the place where vegetation changes from aquatic or water-tolerant vegetation to terrestrial or water-intolerant vegetation.<sup>278</sup>

Under the *Regulations*, the Minister of Environment, Energy and Climate Action can grant a Watercourse, Wetland, and Buffer Zone Activity Certification to someone who has completed training, and the person holding such a certificate is exempt from the requirement to obtain a permit.<sup>279</sup> The *Regulations* provide criteria that aid the certification process and can be used to refuse or revoke a certificate, license, or permit to alter a wetland.<sup>280</sup>

**Recommendation:** Any person who undergoes training in Prince Edward Island for a Watercourse, Wetland, and Buffer Zone Activity Certification should receive training on identifying and stewarding salt marshes.

## 6.2.3 WETLAND CONSERVATION POLICY FOR PRINCE EDWARD ISLAND

The *Wetland Conservation Policy for Prince Edward Island* (in this subsection, the “*Policy*”) provides further guidance for wetlands stewardship and protection and recommends mitigation mechanisms meant to achieve no net loss of wetlands and wetland function.<sup>281</sup> The *Policy* acknowledges that wetlands serve to accumulate organic matter and contribute to carbon sequestration, acting as carbon sinks that reduce the greenhouse effect.<sup>282</sup> One of the goals of the policy is to achieve no net loss of wetlands and wetland function.<sup>283</sup>

The *Policy* uses a tiered process: avoidance, minimization, or compensation. The *Policy* also further explores the different kinds of wetland classes (pages 8-9) and sets out a definition for “wetland functions”:

The natural properties and processes (physical, chemical or biological) associated with wetland ecosystems. Wetland functions include the natural processes and derivation of 9 benefits and values associated with wetland ecosystems including economic production (e.g. peat, agricultural

275. *Watercourse and Wetland Protection Regulation*, PEI Reg EC720/08 [“**PEI WWPR**”] at subsection 2(1).

276. *Ibid*, at sections 3(3) and 3(4).

277. *Ibid*, at subsection 1(1).

278. *Ibid*, at subsection (hh).

279. *Ibid*, at section 4.

280. *Ibid*, at subsection 12(8).

281. Government of Prince Edward Island, “Wetland Conservation Policy for Prince Edward Island” (undated), online: <[https://www.princeedwardisland.ca/sites/default/files/publications/pei\\_wetland\\_policy\\_2007\\_0.pdf](https://www.princeedwardisland.ca/sites/default/files/publications/pei_wetland_policy_2007_0.pdf)>, at page 1.

282. *Ibid*, at page 2.

283. *Ibid*, at page 5.

crops, wild rice, peatland forest products), fish and wildlife habitat, organic carbon storage, water supply and purification (groundwater recharge, flood control, maintenance of flow regimes, shoreline erosion buffering), soil and water conservation, as well as tourism, heritage, recreational, educational, scientific and esthetic opportunities.<sup>284</sup>

The tiered approach to wetland conservation under the *Policy* is similar to the approach used in the *Federal Policy on Wetland Conservation* (see subsection 7.3.5 below).

**Recommendation:** The *Wetland Conservation Policy for Prince Edward Island* should be amended to specifically differentiate between the general wetland function to sequester carbon and the specific ability of blue carbon ecosystems to sequester carbon at high rates. This may help government decision-makers to prioritize stewardship and protection of blue carbon ecosystems and prevent approvals for activities in salt marshes where the only mitigation is compensation.

Prince Edward Island has a wetland inventory, which was updated most recently in 2009. The inventory is not a useable map, but rather a geographic information system data set, which can be requested by the public for free.<sup>285</sup>

**Recommendation:** The Prince Edward Island wetland inventory should be updated to include information that helps set out which wetlands are salt marshes.

#### 6.2.4 PLANNING ACT

The *Planning Act* (in this subsection, the “*Act*”) governs the use and planning of land within the province and the protection of the natural and built environment from development. It is administered by the Department of Agriculture and Land.

In carrying out their responsibilities under the *Act*, the Minister of Agriculture and Land must have regard for matters of provincial interest, including the protection, conservation and management of coastal areas, the mitigation of greenhouse gas emissions, and adaptation to a changing climate.<sup>286</sup>

The *Act* provides broad discretion and power to the Lieutenant Governor in Council (the “*LGiC*”) to adopt or make regulations about provincial land-use policies, establish minimum requirements for official plans, and make regulations for minimum building standards respecting the protection of the natural environment.<sup>287</sup> Land-use policies or by-laws of municipalities must adhere to the regulations.<sup>288</sup> More specifically, the *LGiC* may make provincial planning regulations applicable to any area except a municipality that has an official plan and bylaw. The regulations can be directed at establishing land-use zones, including for conservation areas and environmentally sensitive areas, or they can establish preconditions to the issuance of permits under the *Environmental Protection Act* and the *Water Act*, as well as their regulations.<sup>289</sup>

**Recommendation:** The Prince Edward Island Minister of Agriculture and Land should establish a provincial land-use policy under the *Planning Act* that guides the stewardship and management of blue carbon ecosystems.

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284. PEI *WWPR*, at pages 9-10.

285. See: 2009 Wetland Inventory, online: <<http://www.gov.pe.ca/gis/index.php3?number=1036522&lang=E#getacopy>>

286. *Planning Act*, RSPEI 1988, c P-8, at subsection 2.1.

287. *Ibid*, at subsections 7(1) and 7.1(1).

288. *Ibid*, at subsection 9(1.1).

289. *Ibid*, at subsections 8(1)(c) and (h).

## 6.2.5 WATER ACT

The *Water Act* (in this subsection, the “*Act*”) is relatively new and came into force in June 2021. It governs Prince Edward Island’s water resources and the ecosystems that support them, with the objective of supporting and promoting the management, protection, and enhancement of water resource in the province. It is administered by the Department of Environment, Energy and Climate Action.

The *Act* prohibits the discharge, directly or indirectly, of a contaminant into groundwater, a watercourse, or a wetland.<sup>290</sup> A “contaminant” as defined in the *Environmental Protection Act* includes gases and may apply to CO<sub>2</sub> emissions released through interference with blue carbon ecosystems (see subsection 6.1.1 for a discussion on contaminants in the context of EIA).

The *Act* allows the creation of Water Management Areas, which are areas designated by the Minister of Environment, Energy and Climate Action (the “*Minister*”) and allows for regulation of activities inside them. The Minister cannot recommend an area for designation unless and until regulations are made that set out the following: requirements for assessment, consultation, and notice; the process for applying for exemptions; and the notice requirements following a designation.<sup>291</sup> There is currently no such regulation. A plan for the specific water area must also be developed before designation.<sup>292</sup> There are four kinds of Water Management Areas: the two most relevant for blue carbon ecosystems are the water sustainability plan area and the aquatic ecosystem protection area.<sup>293</sup>

For a water sustainability plan area, the Minister may, by order, establish a process through which a water sustainability plan for a watershed is developed for the purpose of preventing and addressing threats to water resources, including the health of aquatic ecosystems.<sup>294</sup> Water resources include water in wetlands. A watershed means the area drained by, or contributing water to, a watercourse.<sup>295</sup> It is not clear how a water sustainability plan would work, but it would likely guide decision-making under other legislation or processes like EIA.

For an aquatic ecosystem protection area, the Minister may, by order, establish a process by which an aquatic ecosystem protection plan is developed for the purpose of protecting a watershed (or part of a watershed, or an assemblage of watersheds) that contains a provincially significant aquatic ecosystem.<sup>296</sup> An aquatic ecosystem is provincially significant if, in the opinion of the Minister, the area:

- “contains significant populations of rare, endangered or uncommon aquatic species”;
- “constitutes significant habitat for rare, endangered, or uncommon aquatic species”;
- “contains unusual aquatic features”;
- “contains exceptionally high populations of common aquatic species”;
- “exhibits exceptional biological diversity”; or
- “contains a significant amount of undisturbed aquatic habitat”.

**Recommendation:** Blue carbon ecosystems in Prince Edward Island should be considered as either unusual aquatic features or as containing a large amount of undisturbed aquatic habitat. This would allow the Minister of Environment, Energy and Climate to manage and protect blue carbon ecosystems as an aquatic ecosystem protection area under the *Water Act*.

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290. *Water Act*, SPEI 2017, c 17, s 2, at section 20.

291. *Ibid*, at section 25(3).

292. *Ibid*, at section 25(3).

293. *Ibid*, at section 25(1).

294. *Ibid*, at section 31(1).

295. *Ibid*, at sections 1(ee) and 1(hh).

296. *Ibid*, at section 33(1).

## 6.3 FISHERIES AND AQUACULTURE

The province of Prince Edward Island has little jurisdiction over matters pertaining to fisheries and aquaculture. Generally, only angling is managed provincially in Prince Edward Island.

Aquaculture in Prince Edward Island is regulated by the federal government.

Fisheries and aquaculture are governed primarily under the provincial *Fisheries Act* (in this section, the “Act”), which is overseen by the Department of Aquaculture and Communities (in this section, the “Department”).

### **Finding:**

The provincial *Fisheries Act* might be used to emphasize fishery practices in Prince Edward Island that can foster knowledge of and prevent destruction of blue carbon ecosystems affected by fishing. However, because aquaculture is largely governed by the federal government, there are no direct avenues to managing or protecting blue carbon ecosystems within the province’s aquaculture and fishery regime.

### 6.3.1 FISHERIES ACT

The *Act* governs aspects of aquaculture and other fisheries-related industries within the jurisdiction of the province. It does not include substantive provisions on aquaculture, but rather provides the Minister and the Lieutenant-Governor in Council with powers to create regulations for the management of aquaculture.<sup>297</sup> The *Fisheries Act Regulations* govern the business and sale of fish rather than licencing for aquaculture operations.

Prince Edward Island collaborates closely with the federal government on its three aquaculture industries: finfish, oysters, and mussels. The Prince Edward Island Aquaculture Leasing Management Board works with the federal government and industry to manage aquaculture, and the Prince Edward Island Aquaculture Leasing Division of the federal Department of Fisheries and Oceans Canada is responsible for leasing sites to industry.<sup>298</sup> The *Prince Edward Island Aquaculture Leasing Policy* does not provide for consideration of the impacts of aquaculture sites on wetlands, salt marshes, or other blue carbon ecosystems.

## 6.4 SPECIES AND HABITAT PROTECTIONS

Prince Edward Island has various laws that allow the government to designate species or habitat as protected, which provide an additional layer of legal protection from certain activities or developments and could provide opportunities to manage or protect blue carbon ecosystems.

The primary statutes that enable species and habitat protection in Prince Edward Island are the *Natural Areas Protection Act* and the *Wildlife Conservation Act*, which are both administered by the Department of Environment, Energy and Climate Action.

### **Findings:**

The *Natural Areas Protection Act* can be used to designate natural areas, including blue carbon ecosystems. If blue carbon ecosystems can be proven to be the habitat of relevant wildlife species, they may be subject to the ability of the Minister of Environment, Energy and Climate Action (in this section, the “Minister”) to regulate and implement policies regarding wildlife.

<sup>297</sup> *Fisheries Act*, RSPEI 1988, c F-13.01, at sections 5 and 9.

<sup>298</sup> Fisheries and Oceans Canada, “Prince Edward Island Aquaculture Leasing Policy” (April 2016), online: <[https://www.dfo-mpo.gc.ca/aquaculture/management-gestion/Prince\\_Edward\\_Island-ipe-eng.htm](https://www.dfo-mpo.gc.ca/aquaculture/management-gestion/Prince_Edward_Island-ipe-eng.htm)>, at part 1.

There is no policy within Prince Edward Island that guides species and habitat protection in a cumulative and collaborative manner. Each species and habitat protection law exists independently of other legislation, which makes it difficult to offer robust protection to ecosystems – including those that serve a blue carbon function – in a provincially cohesive manner.

#### 6.4.1 NATURAL AREAS PROTECTION ACT

The objective of the *Natural Areas Protection Act* is to preserve natural areas in the province. A “natural area” is any parcel of land, designated under the *Act*, that either contains natural ecosystems or constitute the habitat of rare, endangered, or uncommon plants or animals, or that contains unusual botanical, zoological, geological, or morphological features.<sup>299</sup> A designated natural area can be on Crown land or private land.<sup>300</sup> Although the term “land” is left undefined in the *Act* and its regulations, there is nothing preventing its application to areas within the jurisdiction of the province that are covered by water.

The *Natural Areas Protection Act Regulations* prohibit certain activities from taking place within a designated natural area, including dumping, filling, excavating, mining, dredging, or otherwise removing topsoil or other surface or sub-surface material of any kind.<sup>301</sup>

Since a natural area can include land containing a natural ecosystem, and both salt marshes and seagrass meadows are natural ecosystems, there is nothing preventing blue carbon ecosystems from receiving protection under the *Act*.

#### 6.4.2 RECREATION DEVELOPMENT ACT

The *Recreation Development Act* (in this subsection, the “*Act*”) is designed to promote and encourage the development of recreation facilities and recreation services in the province, primarily for the needs and desires of people during their leisure.<sup>302</sup> It is administered by the Department of Tourism and Culture.

The *Act* allows the allows the Lieutenant Governor in Council to designate any area of public or private land as one of the following: as a provincial park for the benefit, advantage, and enjoyment of the public; as a protected area, including for the purpose of preserving aesthetics, education, historical or scientific interest; and as a protected beach.<sup>303</sup> A protected beach includes the land extending seaward from the mean highwater mark that is necessary to provide adequate protection, meaning that the protection could reach as far as the limits of the province’s crown land and capture some seagrass meadow.<sup>304</sup>

The protections available under the *Act* could be applied to blue carbon ecosystems including salt marshes and areas of provincial with seagrass meadow.

#### 6.4.3 WILDLIFE CONSERVATION ACT

The *Wildlife Conservation Act* (in this subsection, the “*Act*”) governs the management and protection of endangered and threatened species (akin to other provincial endangered or species at risk legislation), migratory birds, fishing, and hunting, and allows for the creation of wildlife management areas. It gives the Minister broad powers over many aspects of wildlife, including the ability to develop suitable guidelines and standards to coordinate the development and implementation of policies and programs to protect and conserve wildlife and habitat and to optimize the impacts of land use practices on wildlife and wildlife habitat.<sup>305</sup>

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299. *Natural Areas Protection Act*, RSPEI 1988, c N-2, at subsection 1(b).

300. *Ibid*, at subsection 3(1).

301. Prince Edward Island *Natural Areas Protection Act Regulations*, PEI Reg EC54/89, at subsection 3(1).

302. *Recreation Development Act*, RSPEI1988 c. R-8, at section 2.

303. *Ibid*, at section 6.

304. *Ibid*, at subsection 6(2).

305. *Wildlife Conservation Act*, RSPEI 1988, c W-4.1, at subsection 3(3).

Under the *Act*, where the Minister considers a species to be endangered, threatened, or of special concern, the Lieutenant-Governor in Council can list that species under regulations; there are prohibitions against injuring, killing possessing, disturbing, taking or interfering with these listed species, unless authorized.<sup>306</sup>

The Minister may also prohibit alteration of wildlife habitat, or designate wetlands, marshes, and rivers of historical and biological value, and regulate the standards for protection and management of those designated areas.<sup>307</sup>

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306. *Ibid*, at section 7.

307. *Ibid*, at section 16(3)(f).



## PART 7 – FEDERAL LAWS IN ATLANTIC CANADA

While provincial laws are generally better equipped to deal with blue carbon ecosystems that are positioned along the coastline of Atlantic provinces – like salt marshes or intertidal ecosystems – other kinds, and particularly subtidal blue carbon ecosystems, are best addressed by the federal government. The federal government is in the unique position of being able to address regional and cumulative effects on blue carbon ecosystems in Atlantic Canada.

Under the federal *Impact Assessment Act*, no project requires an impact assessment for the sole reason that it impacts a blue carbon ecosystem. There are also no requirements for a project that impacts a wetland to be assessed. However, there are two specific processes available that could be used to assess impacts of human development and activities on blue carbon ecosystems in a broader manner: regional assessments and strategic assessments. The *Strategic Assessment of Climate Change* already guides project-specific impact assessments and requires proponents to consider project impacts on carbon sinks; however, there are no specific guidelines for blue carbon.

The *Federal Policy on Wetland Conservation* is designed to guide federal decision-makers for federally regulated activities and on federal Crown land. One of the goals of the policy is no net loss of wetland functions on all federal lands and waters and the policy identifies wetlands' natural carbon storage function. However, the policy is dated; it was introduced in 1991 and has not been substantially amended or updated. The policy could be used to guide federal decision-making with respect to stewardship and protection of salt marshes (as blue carbon ecosystems) on federal lands.

The federal regime under the *Fisheries Act* has huge implications for any activity that affects fish or fish habitat, as well as marine plants, and could be used to provide protections to blue carbon ecosystems if they provided habitat for fish. The *Fisheries Act* prohibits the harmful alteration, disruption, or destruction of fish habitat except where the responsible minister has provided an approval. The approval process is guided by the *Authorizations Concerning Fish and Fish Habitat Protection Regulations* and the *Fish and Fish Habitat Protection Policy Statement*. There are currently no requirements for the responsible minister to consider impacts on blue carbon sequestration ecological function before issuing approvals under the *Fisheries Act*.

The *Fisheries Act* also allows the Governor-in-Council to create ecologically significant areas to manage fish and fish habitat that are “sensitive, highly productive, rare, or unique”. No ecologically sensitive area has yet been established, but one could be established to protect blue carbon ecosystems, including in areas where one or more blue carbon ecosystems were adjacent and featured terrestrial and marine overlap along the coast.

The harvesting of marine plants (and other kinds of aquaculture) is also regulated under the *Fisheries Act*. However, new federal aquaculture legislation is anticipated.

There are various species and habitat protections available for use on blue carbon ecosystems, including under the *Canada National Marine Conservation Areas Act*, the *Canada National Parks Act*, the *Canada Wildlife Act*, and the *Oceans Act*.

## 7.1 FEDERAL IMPACT ASSESSMENT IN ATLANTIC CANADA

Projects are assessed federally under the *Impact Assessment Act* (in this section, the “*Act*” or the “*IAA*”). Some projects that were registered prior to the passing of the *IAA* continue to be assessed under the *Canadian Environmental Assessment Act, 2012*. Only projects that are within federal jurisdiction are assessed under the *IAA*. Like most provincial EAs or EIAs, an impact assessment is only mandatory if a project is a type of listed project. The list of projects that triggers impact assessments under the *IAA* is set out in the *Physical Activities Regulations* (in this section, the “*Regulations*”) created under the *Act*. Federal impact assessment is administered by the Impact Agency of Canada (the “*Agency*”) and Environment and Climate Change Canada.

### **Finding:**

In the federal impact assessment regime, no project triggers an IA for the specific or sole reason that it impacts a blue carbon ecosystem or any kind of carbon sink. Regional assessment, which is available under the *IAA*, may be the best suited for conducting a regional assessment of impacts on blue carbon ecosystems for the Atlantic Canada region. Strategic assessment, also available under the *IAA*, may be suitable for conducting a regional or national assessment of one or more policies aimed at stewarding or protecting blue carbon ecosystems.

### 7.1.1 IMPACT ASSESSMENT ACT

The projects that are listed under the *Impact Assessment Act*, and thus that require an impact assessment, are typically very large projects, and there is no direct trigger for projects that impact blue carbon ecosystems. However, projects not listed in the *Regulations* can still be assessed because any person can request that a project be designated by the Minister of Environment and Climate Change Canada (the “*Minister*”) for an impact assessment.<sup>308</sup> The Minister can also designate a project for impact assessment on their own initiative.<sup>309</sup> A request to designate is based on the following considerations:

- the potential for adverse effects within federal jurisdiction or adverse direct or incidental effects; or,
- public concerns related to the potential for adverse effects within federal jurisdiction or adverse direct or incidental effects.

As stated in its *Operational Guide: Designating a Project under the Impact Assessment Act*, the Agency provides a recommendation to the Minister regarding the need to designate a project not listed by the *Regulations*. In making that recommendation, the Agency considers additional relevant factors. Two of these factors are: the potential adverse effects cannot be adequately managed through other existing legislation or regulatory mechanisms, and the potential greenhouse gas emissions associated with the project may hinder the Government of Canada’s ability to meet its climate change obligations.<sup>310</sup>

The *Act* also allows for a regional assessment or strategic assessment to be conducted. A regional assessment is meant to address the regional and cumulative effects of projects in a defined region, while a strategic assessment is meant to address the effects and impacts of government policies, guidelines, and programs on a specified subject. For instance, a regional assessment could be considered for a region that sees impacts on blue carbon ecosystems, and a strategic assessment could be considered for the federal government’s policy on wetland conservation and how it incorporates (or does not incorporate) project impacts on blue carbon ecosystems.

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308. *Impact Assessment Act*, SC 2019, s 1 [“*IAA*”], at section 9.

309. *Ibid.*

310. Impact Assessment Agency of Canada, “Operational Guide: Designing a Project under the *Impact Assessment Act*”, online: <<https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/designating-project-impact-assessment-act.html>>

The *Strategic Assessment of Climate Change* (the “SACC”) is meant to be used as part of the impact assessment process. It requires proponents of projects with a lifetime beyond 2050 to provide a credible plan to achieve net-zero emissions by 2050 and explains how the Agency will review and consider climate change information from proponents.<sup>311</sup> The SACC also requires proponents to consider project impacts on carbon sinks.<sup>312</sup> The SACC sets out the kinds of information that a proponent must include when reporting on project impacts on carbon sinks, but it does not provide an approach to estimating losses or gains to carbon sinks. It has plans to develop such an approach in the future.<sup>313</sup> However, because the SACC only applies to designated projects under the *IAA*, and because designated projects are generally not of the type that would impact blue carbon ecosystems, it is of limited value in helping to assess impacts on blue carbon ecosystems.

The *Act* also governs “projects carried out on federal lands by federal authority” and prohibits any federal authority, such as the Department of Fisheries and Oceans, from carrying on a project on federal lands or exercising any duty or power that would permit a project to be carried out on federal lands, unless and until the authority has determined that the project will not cause significant adverse environmental effects or, if the project will likely cause significant adverse effects, that those effects are justified.<sup>314</sup> An assessment of adverse environmental effects by a federal authority is not an impact assessment. In particular, such assessments do not provide the same procedural rights and processes that an impact assessment provides: the authority must simply post notice of the project and invite public comments.<sup>315</sup>

## 7.2 FEDERAL FISHERIES AND AQUACULTURE IN ATLANTIC CANADA

With respect to the regulation of aquaculture, while the federal government does regulate some aspects under the *Fisheries Act*, it has not seized on its ability to regulate aquaculture and has largely left the Atlantic provinces, except for Prince Edward Island, to regulate the industry (see note in subsection 1.2 about *Morton* decision).

Canada has limited regulations for the harvesting of seaweed. Under the *Fisheries Act*, the federal Department of Fisheries, Oceans, and Canadian Coast Guard (in this section, the “Department” or “DFO”) is ultimately responsible for the regulation of seaweed harvesting. DFO has jurisdiction below the low water mark and where regulations exist concerning the harvesting of seaweed populations in the intertidal zone. These existing regulations are listed under the *Fisheries Act* and referenced as the *Atlantic Fishery Regulations*. Under Schedule I of these regulations, four types of seaweed (dulse, Irish moss, horsetail or wire weed, and rockweed) are defined as marine plants. Although the federal government has the jurisdiction to regulate the harvesting of seaweed along the country’s coastlines, the current regulations are limited in scope and use.

Seaweed refers to several species of marine algae that are used in many maritime countries as a source of food, to produce cosmetics, for various industrial applications, and as fertiliser. There are hundreds of different varieties of seaweed. The largest seaweed-cultivating countries are in Asia, such as Japan, South Korea, China, and Indonesia. However, the industry has been growing steadily across North America and Europe. This has led to the creation of various statutes and regulations regarding seaweed harvesting. The Government of Canada works together with its provincial counterparts to implement a legal regime of limited scope. The maritime province of Nova Scotia has its own provincial legislation and regulations, while Newfoundland and Labrador relies solely on the federal government. The legislated regime for seaweed harvesting in Canada contrasts significantly with those in other jurisdictions.

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311. Impact Assessment Agency of Canada, “Strategic Assessment of Climate Change”, online: <<https://www.canada.ca/en/services/environment/conservation/assessments/strategic-assessments/climate-change.html>>

312. *Ibid.*, at subsection 5.1.

313. *Ibid.*, at subsection 5.1.2.

314. *IAA*, at section 82.

315. *Ibid.*, at section 86.

## 7.2.1 AQUACULTURE ACT (PENDING)

In 2016, the Standing Senate Committee on Fisheries and Oceans tabled a report calling for a legislative framework for aquaculture in Canada. Currently, aquaculture is regulated primarily under the federal *Fisheries Act*. Since that report, work is currently ongoing to develop a federal *Aquaculture Act*. Following years of engagement with industry, government, and stakeholders, a report summarizing engagement was created. This “What We Heard” document does not reference impacts on blue carbon ecosystems, carbon, or climate change considerations as part of the process of creating the federal *Aquaculture Act*.<sup>316</sup> The *Aquaculture Act* will likely involve a transfer of powers currently available under the federal *Fisheries Act*, as well as components specific to the aquaculture industry. There does not appear to be any consideration or assessment of the impacts of aquaculture or the need to consider the carbon implications of aquaculture.<sup>317</sup>

## 7.2.2 FISHERIES ACT

The federal *Fisheries Act* (in this section, the “*Act*”) is administered by the Department of Fisheries, Oceans, and Canadian Coast Guard, although some provisions – subsections 36(3) to 36(6) – are administered by the Department of Environment and Climate Change.

The *Act* has huge implications for any activity that affects fish or fish habitat, as well as the harvesting of marine plants and other aquaculture activities. The key environmental provisions in the *Act* that are relevant to stewardship and protection of blue carbon ecosystems are provisions related to fish and fish habitat protection.

Section 35(1) of the *Fisheries Act* prohibits any person from carrying on any work, undertaking, or activity that “results in the harmful alteration, disruption or destruction of fish habitat”.<sup>318</sup> “Fish habitat” is defined as “water frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas”.<sup>319</sup> The *Act* provides an exception to the prohibition in section 35(1) to activities that are authorized by the Minister of Fisheries, Oceans, and Canadian Coast Guard (the “*Minister*”) or regulations made under the *Act*.<sup>320</sup>

It is noteworthy that the *Aquaculture Activities Regulation* created under the *Act* provide an exemption to various aquaculture undertakings, including development of aquaculture facilities and measures to control biofouling, fish pathogens, or pests.<sup>321</sup> Before authorizing any harmful alteration, disruption or destruction of fish habitat, the Minister must consider certain factors, including: whether there are measures and standards to avoid, mitigate or offset effects on fish habitat; and, the cumulative effects of the project in combination with other works or projects.<sup>322</sup>

The *Authorizations Concerning Fish and Fish Habitat Protection Regulations* (the “*HADD regulations*”) set out the criteria and factors involved in the Minister’s decision-making on applications that allow the alteration, disruption, or destruction of fish habitat.<sup>323</sup> These regulations require each application to include a detailed description of the likely effects of the proposed work, undertaking, or activity on fish and fish habitat, including the extent and type of fish habitat likely to be affected, and the probability, magnitude, geographic extent, and

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316. Fisheries and Oceans Canada, “What we heard report: Proposed federal Aquaculture Act – 2020 general engagement”, online: <<https://www.dfo-mpo.gc.ca/aquaculture/publications/report-potential-act-rapport-eventuelle-loi-eng.htm>>

317. Fisheries and Oceans Canada, “Considerations for a new Act”, online: <<https://www.dfo-mpo.gc.ca/aquaculture/act-loi/considerations-eng.html>>

318. *Fisheries Act*, RSC 1985, c. F-14 [“*FA*”], at subsection 35(1).

319. *Ibid*, at section 2(1).

320. *Ibid*, at subsection 35(2).

321. *Aquaculture Activities Regulations*, SOR/2015-177, at subsection 15(1)(a).

322. *FA*, at subsection 34.1(1). Factors identified are not an exhaustive list of factors that must be considered.

323. See *Authorizations Concerning Fish and Fish Habitat Protection Regulations*, SOR/2019-286, at subsection 2(1)(1) and Schedule 1.

duration of the likely effects on fish and fish habitat.<sup>324</sup> The HADD regulations also require the provision of an Offsetting Plan for the harmful alteration, disruption, or destruction of fish habitat (when not offset by habitat credits, also created under the regulations), which includes offsetting measures.

**Recommendation:** It should be clear that offsetting measures for the harmful alteration, disruption, or destruction of fish habitat under the federal *Fisheries Act* are not viable options for fish habitat that also serve a blue carbon ecosystem function because of the inefficiency of measures to reverse the damage done.

The *Fish and Fish Habitat Protection Policy Statement* (the "*Policy Statement*") is designed to guide the implementation of the fish and fish habitat protection protections available under the *Fisheries Act* (and provisions of the *Species at Risk Act* and *Oceans Act*) and its regulations. It guides the Department in using regulatory and non-regulatory tools to support effective and efficient conservation.<sup>325</sup> The *Policy Statement* identifies habitat degradation and modification as threats to fish habitat and refers to the possibility of impairment of ecological functions.<sup>326</sup> It also provides factors that the Minister must consider before authorizing an exception to section 35(1).<sup>327</sup> Offsetting measures are part of the factors to be considered.<sup>328</sup>

**Recommendation:** The carbon sequestration function of blue carbon ecosystems should be recognized as an ecological function within the *Fish and Fish Habitat Protection Policy Statement*.

The Governor-in-Council, on the recommendation of the Minister, may make regulations under the *Act* that designate an ecologically significant area (an "*ESA*").<sup>329</sup> Every person is prohibited from carrying on work inside an ESA unless authorized.<sup>330</sup> In order to conduct work in an ESA, a proponent must apply and provide information about the proposed undertaking, as required by regulation.<sup>331</sup> The *Policy Statement* notes that these areas would be established to manage fish and fish habitat that is "sensitive, highly productive, rare or unique in accordance with management objectives established for their conservation".<sup>332</sup> There are currently no regulations setting out how ESAs will work, and no ESAs have been established.

The *Fisheries Act* also prohibits the harvesting of marine plants – which include benthic and detached algae, marine flowering plants, brown algae, red algae, green algae, and phytoplankton<sup>333</sup> – in the coastal waters of Canada, except in accordance with the conditions of a licence issued by the Minister.<sup>334</sup> If an application for such a licence is made, the Minister may impose conditions with respect to the harvesting that they consider necessary for the protection and conservation of the marine plant resources of the coastal waters of Canada.<sup>335</sup> "Coastal waters of Canada" excludes the waters within the geographical limits of a province (above the average low water mark).<sup>336</sup>

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324. *Ibid*, at section 9(1) of Schedule A.

325. Fisheries and Oceans Canada, "Fish and Fish Habitat Protection Policy Statement", online: < <https://www.dfo-mpo.gc.ca/pnw-ppe/policy-politique-eng.html> > ["*Fish Habitat Policy*"], at part 4.

326. *Ibid*, at part 5.2

327. *Ibid*, at part 8.6.

328. *Ibid*, at part 8.6(c).

329. *FA*, at subsection 35.2(2).

330. *Ibid*, at subsection 35.2(1).

331. *Ibid*, at subsection 35.2(3).

332. *Fish Habitat Policy*, at part 9.3.

333. *FA*, at section 47.

334. *Ibid*, at section 44.

335. *Ibid*, at section 45.

336. *Ibid*, at section 47.

In Atlantic Canada, the harvesting of marine plants is regulated further under the *Atlantic Fishery Regulations*.<sup>337</sup> These regulations prohibit the harvesting of rockweed without a licence and restrict certain harvesting styles; they also set out specific and explicit prohibitions.<sup>338</sup> For example:

Notwithstanding the conditions of a licence, no person shall

(a) harvest horsetail or Irish moss of the species *Chondrus crispus* in the waters along the coast of Prince Edward Island lying east of a line bearing 360° true from Latitude 46°26'31"N., Longitude 62°44'54"W. (St. Peters Light) to a line bearing 135° true from Latitude 46°20'N., Longitude 62°17'W. (Souris) from January 1 to December 31.<sup>339</sup>

The ability to fully prohibit types of harvesting of rockweed or limit the areas in which rockweed harvesting can take place may be extended to other kinds of marine plant harvesting and could account for the location or significance of blue carbon ecosystems.

It is also useful to consider the standards and codes of practice established under the *Fisheries Act*, which help to further guide the decision-making of the Department and the Minister.<sup>340</sup> For example, there are interim codes of practice for various aspects of decision-making like routine maintenance dredging.<sup>341</sup> These may have bearing on stewardship of blue carbon ecosystems while activities that received approval under the *Act* are carried out.

## 7.3 FEDERAL OCEAN ECOSYSTEM AND SPECIES PROTECTIONS IN ATLANTIC CANADA

There are various federal laws that allow the government to designate ecosystems and species as protected, which provide an additional layer of legal protection from certain activities or developments and could provide opportunities to manage or protect blue carbon ecosystems.

The primary federal statutes that enable ecosystem and species protection are the *Canada National Marine Conservation Areas Act*, *Canada National Parks Act*, *Canada Wildlife Act*, and *Oceans Act*.

### 7.3.1 CANADA NATIONAL MARINE CONSERVATION AREAS ACT

The *Canada National Marine Conservation Areas Act* is administered by Parks Canada, an agency of the Department of Environment and Climate Change. It allows for the creation of National Marine Conservation Areas (“*NMCAs*”) with the objective of protecting and conserving marine areas.<sup>342</sup> Every person is prohibited from using or occupying the public land in an NMCA.<sup>343</sup> The Governor in Council has broad authority to make regulations for the management and protection of ecosystems within an NMCA.<sup>344</sup>

An NMCA is designated by an order made by the Governor in Council and listed in Schedule 1 or Schedule 2 of the *Act*. There is only 1 NMCA currently listed. It is noteworthy that there are two pending NMCAs (in freshwater), whereby the province of Ontario is transferring the land from the province to the federal government.<sup>345</sup> An NMCA could be used to protect a blue carbon ecosystem in a marine area.

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337. *Atlantic Fishery Regulations*, 1985, SOR/86-21, at subsection 3(1)(b). The regulations apply to the tidal waters of New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island (as well as Quebec).

338. *Ibid*, at subsection 95(1).

339. *Ibid*, at subsection 96(a).

340. The Minister may establish standards and codes of practice under subsection 34.2(1) of the *Fisheries Act*.

341. Fisheries and Oceans Canada, “Interim code of practice: Routine maintenance dredging”, (no date), online: <<https://www.dfo-mpo.gc.ca/pnw-ppe/codes/dredge-drageur-eng.html>>

342. *Canada National Marine Conservation Areas Act*, SC 2002 c. 18.

343. *Ibid*, at section 12.

344. *Ibid*, at subsection 16(1).

345. *Ibid*, at subsection 5(2).



### 7.3.2 CANADA NATIONAL PARKS ACT

The *Canada National Parks Act* (in this subsection, the “*Act*”) is designed to allow the creation of national parks throughout Canada. National parks can include a marine component. The *Act* is administered by Parks Canada. Like in NMCAs, every person is prohibited from using or occupying public lands in a national park.

Under the *Act*, the Governor in Council may, by regulation, designate any area of a national park to be a “wilderness area”. If so designated, the Minister of Environment and Climate Change may not authorize any activity in that area that is likely to impair the wilderness character of the area.<sup>346</sup> A national marine, including one with a marine component, could be used to protect a blue carbon ecosystem on federal crown land.

### 7.3.3 CANADA WILDLIFE ACT

The *Canada Wildlife Act* (in this subsection, the “*Act*”) allows for the management and protection of wildlife through the creation of wildlife areas, including protected marine areas in the territorial sea of Canada.<sup>347</sup> It is administered by the Canada Wildlife Service, a directorate of the Department of Environment and Climate Change. The *Wildlife Area Regulations* created under the *Act* set out prohibitions within wildlife areas and provide a schedule of current wildlife areas.<sup>348</sup> The focus on wildlife limits the direct application of the *Canada Wildlife Act* with respect to blue carbon ecosystems.

### 7.3.4 OCEANS ACT

The *Oceans Act* (in this subsection, the “*Act*”) governs many aspects of ocean governance in Canada, including setting out the different ocean zones and governing the protection of the marine environment. The *Act* is administered by the Department of Fisheries, Oceans and Canadian Coast Guard, but some responsibilities also fall on the Department of Transport and the Department of Environment and Climate Change.

One of the specific governance areas relevant to blue carbon ecosystems is the ability to designate Marine Protected Areas (“MPAs”), which are areas of the ocean, including internal waters or territorial sea, that have been designated for special protection for reasons including but not limited to the conservation and protection of the following:

- non-commercial fishery resources and marine mammals and their habitats;
- endangered or threatened marine species and their habitats;
- unique habitats;
- marine areas of high biodiversity or biological productivity; or
- marine areas for the purpose of maintaining “ecological integrity”.<sup>349</sup>

In the *Act*, “ecological integrity” means a condition in which the ecosystem is undisturbed by human activity, natural ecological processes are intact and self-sustaining and evolve naturally, and the ecosystem’s capacity for self-renewal and its biodiversity are maintained.<sup>350</sup>

The Governor in Council, on the recommendation of the Minister, may make regulations that designate an MPA, delineate zones within the MPA, and prohibit classes of activities.<sup>351</sup> Blue carbon ecosystems fitting one or more of the conservation and protection criteria would be eligible for designation as an MPA if they were within a marine area.

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346. *Canada National Parks Act*, SC 2000, c. 32, at sections 13 and 14.

347. *Canada Wildlife Act*, RSC 1985, c W-9, at subsection 4.1(1).

348. *Wildlife Area Regulations*, CRC, c. 1609, at subsection 3(1).

349. *Oceans Act*, SC 1996, c 31, at subsection 35(1).

350. *Ibid*, at subsection 35(1.1).

351. *Ibid*, at section 35(3).

### 7.3.5 FEDERAL POLICY ON WETLAND CONSERVATION

The *Federal Policy on Wetland Conservation* (in this section, the “*Policy*”) is designed to guide federal decision-makers when federally regulated activities may have impacts on wetlands. It is administered by the Canadian Wildlife Service, which is an agency of Environment and Climate Change Canada.<sup>352</sup>

The *Policy* is meant to guide existing federal programs and regulatory and decision-making processes in order to achieve its objective, which is to “promote the conservation of Canada’s wetlands to sustain their ecological and socio-economic functions, now and in the future”.<sup>353</sup> The *Policy* recognizes various wetland ecological functions, including that they are a natural storage base for carbon.<sup>354</sup> It also recognises wetland socio-economic functions, including that they are a source of domestic peat energy and peat for horticultural and agricultural applications.<sup>355</sup>

The *Policy* sets goals in support of its objectives, including a goal of no net loss of wetland functions on all federal lands and waters and the goal of recognition of wetland functions in resource planning, management, and economic decision-making, for all federal programs, policies, and activities.<sup>356</sup> The *Policy* also outlines seven strategies to guide the use and management of wetlands. One of the strategies commits the federal government to using National Parks, National Wildlife Areas, Migratory Birds Sanctuaries, National Capital Commission lands, and other federal areas established for ecosystem conservation to sustain wetland functions.<sup>357</sup>

The *Policy* does not mention blue carbon ecosystems or the special significance that salt marshes have for achieving a vital wetland function: blue carbon sequestration. Furthermore, although the carbon sequestration function of wetlands is identified, the *Policy* does not elaborate or set priorities with respect to which ecological functions will require effective conservation.

In applying the *Policy*, federal land managers are guided by the *Federal Policy on Wetland Conservation – Implementation Guide for Federal Land Managers* (in this section, the “*Implementation Guide*”).<sup>358</sup> The *Implementation Guide* states that all federal land managers should consider the *Policy* in daily decision-making, including for permits and Crown land decisions.<sup>359</sup> “No net loss of wetland functions” is defined in the *Implementation Guide* as meaning that unavoidable losses of wetland functions must be compensated.<sup>360</sup>

**Recommendation:** The *Federal Policy on Wetland Conservation* and the *Federal Policy on Wetland Conservation – Implementation Guide for Federal Land Managers* should be updated to reflect current understandings of the importance of wetlands and the current legislative and policy regimes governing wetlands and related ecological systems. The updated policy should include specific information about the importance of salt marshes as blue carbon ecosystems and the inability to restore or “compensate” this type of wetland function.

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352. Department of Supply and Service Canada, “*The Federal Policy on Wetland Conservation*” 1991, online: <<https://publications.gc.ca/collections/Collection/CW66-116-1991E.pdf>>

353. *Ibid*, at page 5.

354. *Ibid*, at page 2.

355. *Ibid*, at page 3.

356. *Ibid*, at page 5.

357. *Ibid*, at page 8.

358. Canadian Wildlife Service, *Federal Policy on Wetland Conservation – Implementation Guide for Federal Land Managers*, 1996, online <<https://publications.gc.ca/collections/Collection/CW66-145-1996E.pdf>>

359. *Ibid*, at page 9.

360. *Ibid*, at page 5.

# CONCLUSION

## ***Laws and policies in Atlantic Canada say little about carbon and nothing about blue carbon.***

There are few and minimal assessments of project, development, and human activity impacts on blue carbon ecosystems or other carbon sinks in the environmental laws and policies of the Atlantic provinces or the federal government. Often, the types of laws or policies likely to focus on stewardship and protection of blue carbon ecosystems are ones dealing with coastal or wetlands issues. However, even these do very little to provide direct oversight of the alteration or destruction of blue carbon ecosystems.

## ***Project and development impacts on blue carbon ecosystems are not assessed.***

In the Atlantic provinces, projects are not required to undergo an environmental assessment or environmental impact assessment for the sole reason that they impact a blue carbon ecosystem. In their current form, the project assessment regimes in each of the four Atlantic provinces often miss opportunities to assess project impacts on blue carbon ecosystems because projects generally do not trigger assessments on the basis that they will impact a certain kind of ecosystem.

Even for larger projects undergoing assessments, proponents may not be required to assess the impacts on carbon sinks. And, although there has been a shift (especially in Nova Scotia) requiring some consideration of impacts on carbon sinks, there are no provincial guides that dictate how proponents of projects undergoing assessments will need to consider or assess impacts on carbon sinks.

Each Atlantic province has laws that deal with the use of provincial crown lands. Generally, activities that are planned to occur on crown lands require permission (approvals, permits, etc.) from the responsible minister. Impacts on blue carbon ecosystems are not considered when making these decisions about crown land (for example, agricultural lands or peat lands).

New Brunswick, Nova Scotia, and Prince Edward Island each restrict or prohibit the alteration of wetlands. However, none of the four Atlantic provinces have wetland policies that specifically recognize the ability of salt marshes to sequester carbon at higher rates than other types of wetlands. While New Brunswick and Nova Scotia use policies to give special protection to provincially significant wetlands (i.e., salt marshes), more focus should be on wetland function rather than just wetland area or habitat. Several of the Atlantic provinces have goals to prevent a loss of special wetlands and to prevent a net loss of wetlands and wetland functions. However, although the four provinces have wetlands inventories, they are all outdated. This prevents effective monitoring of goals to prevent loss of wetland habitat and function.

There are no policies in Atlantic Canada that provide for protection of specific coastal ecosystems like seagrass meadows. Most protections that are available for coastal ecosystems come either from statutes designed to protect watercourses and water resources, or statutes designed to conserve areas of the environment generally.

To help guide project assessments, provincial laws or policies will need to a) identify the unique importance of blue carbon ecosystems to sequester blue carbon and b) prioritize the stewardship and protection of these ecosystems specifically.

***Provincial fisheries and aquaculture legislation in Atlantic Canada is not effective for stewardship or protection of blue carbon ecosystems.***

Aquaculture legislation and policy in New Brunswick, Newfoundland and Labrador, and Nova Scotia are not effective for stewarding or protecting blue carbon ecosystems because the existing regimes do not require assessments of aquaculture impacts on their ecosystems. The Prince Edward Island regime, which is federally managed under the *Fisheries Act*, is similar. Provincial fisheries laws are limited because of the federal government's jurisdiction over fisheries.

***Blue carbon ecosystems are managed in a piecemeal fashion in Atlantic Canada and receive no direct protection, either through law or policy.***

Each Atlantic province currently has several laws and policies that affect governance, stewardship, and protection of blue carbon ecosystems, and it is common for multiple government departments and agencies to be involved as decision-makers for these ecosystems. The laws and policies are often focused on "issues" or "areas" rather than on the stewardship of ecosystems, and ecosystem functions, in a coordinated way that considers cumulative impacts.

Furthermore, provincial laws that are designed to protect species, habitats, and ecosystems are often focused on protecting "unique", "rare", "uncommon" or "representative" species and ecosystems. The value of blue carbon ecosystems is not their rarity, but their important blue carbon sequestration function (they may also be home to unique or rare species); this makes it difficult to steward and protect of blue carbon ecosystems within these regimes.

The approach taken by Nova Scotia to coordinate species and habitat protections, through a provincial protected areas plan, may be an effective way to establish provincial stewardship and conservation priorities. Provincial policy, strategy, and management plans should take an ecosystem approach to conservation and set out priorities for types of ecosystems that should be protected.

***To guide conservation of blue carbon ecosystems, the Atlantic provinces need specific policies that recognize the importance of blue carbon ecosystems and their blue carbon sequestration ecosystem function.***

Nova Scotia and Prince Edward Island recognize carbon sequestration as a wetland function in their wetland conservation policies, but neither Newfoundland and Labrador nor New Brunswick policies even mention climate change. Blue carbon sequestration needs to be recognized in all the Atlantic provinces as an important "ecological function" or "ecosystem function". This is likely an effective way to fit blue carbon ecosystem conservation within existing environmental statutes, at the provincial and federal level. It would create a connection between the practical function of blue carbon ecosystems and the objective of these laws.

# APPENDIX A – FULL LIST OF RECOMMENDATIONS

## NEW BRUNSWICK

Recommendation: In New Brunswick, blue carbon ecosystems should be recognized in law or policy as being having “unique”, “rare” or “endangered” so that projects impacting these features would require an EIA.

Recommendation: The New Brunswick Department of Environment and Local Government should create a guide setting out how project impacts on blue carbon ecosystems, including their ability to sequester carbon, should be assessed in an EIA.

Recommendation: The impacts of a watercourse or wetland alteration on blue carbon ecosystem function should be assessed during the permitting process under the New Brunswick *Watercourse and Wetland Alteration Regulation*. Specifically, any alteration of a coastal wetland, especially a salt marsh or a seagrass meadow in a marine area within the province’s jurisdiction, should be considered a “significant threat to the environment” within the meaning of the *Regulation*. The *Watercourse and Wetland Alteration Technical Guidelines* should be updated to reflect that carbon sequestration is a wetland function.

Recommendation: To better protect blue carbon ecosystems, harvesting or removal of peat in blue carbon ecosystems should be prohibited. This could be achieved by removing or amending subsection 4(2) of the New Brunswick *Watercourse and Wetland Alteration Regulation*.

Recommendation: To be more useful for guiding government decision-making pertaining to blue carbon ecosystems, the *New Brunswick Wetlands Conservation Policy* should be amended to explicitly recognize carbon sequestration as a wetland function.

Recommendation: The New Brunswick Department of Environment and Local Government should amend their policies guiding the watercourse and wetlands alteration permitting process so that the *New Brunswick Wetlands Conservation Policy* and the impact of projects on salt marshes and their blue carbon ecosystem function are considered as part of each application assessment.

Recommendation: To provide protection for seagrass meadows, the New Brunswick *Coastal Areas Protection Policy* should be amended so that one of its objectives is the prevention of any loss of blue carbon ecosystem (carbon sequestration) function.

Recommendation: The New Brunswick *Coastal Areas Protection Policy* should be amended so that lists of activities not permitted in Zone A and B include the destruction of blue carbon ecosystems like salt marshes and seagrass meadows.

Recommendation: The New Brunswick *Coastal Areas Protection Policy* and *Wetland Conservation Policy* should be amended to provide specific guidance about how the Minister of Natural Resources and Energy Development should assess impacts to blue carbon ecosystems when providing leases or licences under the *Crown Lands and Forests Act*.

Recommendation: New Brunswick’s *Peat Mining Policy* should identify that salt marshes, which may contain peat, play an important role as carbon sinks. The policy should recognize that salt marshes cannot be restored through reclamation efforts.

Recommendation: All blue carbon ecosystems should be considered “ecologically and environmental sensitive areas” within the scope of the New Brunswick *Aquaculture Act* and its regulations. Furthermore, subsection 11(b) of the New Brunswick *General Regulation – Aquaculture Act* (which allows the registrar or Minister to refuse to issue, renew, or amend an aquaculture licence, aquaculture lease, or occupation permit, as applicable, where doing so would cause undue conflict with ecologically and environmental sensitive areas) should be carried over into the new *Aquaculture Act* regime so that the registrar or Minister may continue to refuse licences where there are impacts to blue carbon ecosystems.

Recommendation: Each provincial park resource management plan in New Brunswick should include protection measures for blue carbon ecosystems and outline how each ecosystem will be managed.

Recommendation: Blue carbon ecosystems should be recognized as “unique” or “ecologically sensitive” within the regime created by the New Brunswick *Protected Natural Areas Act* because of their ability to sequester carbon. This ecosystem function could be recognized and defined through a provincial blue carbon policy.

## NEWFOUNDLAND AND LABRADOR

Recommendation: Environmental assessments in Newfoundland and Labrador could be effective at preventing large projects from impacting blue carbon ecosystems if the province had a coastal ecosystem or blue carbon ecosystem policy that prohibited the destruction of blue carbon ecosystems, or if the province’s *Policy for Development in Wetlands* recognized carbon sequestration as a wetland function and had a goal of achieving no net loss of wetland function. Such policies would help the Minister or Lieutenant-Governor in Council to determine whether a project affecting a blue carbon ecosystem was contrary to law or policy.

Recommendation: The Newfoundland and Labrador *Environmental Assessment – A Guide to the Process* should require proponents to consider their undertaking’s carbon footprint, including the emissions released by alteration or destruction of a blue carbon ecosystem and the cumulative loss of carbon sequestration functionality.

Recommendation: Section 5.2 of the Newfoundland and Labrador *Policy for Development in Shore Water Zones* should be amended to prohibit permits, issued under section 48 of the *Water Resources Act*, for activities that will infill, drain, dredge, channel, or remove the surface or underwater vegetation on or along shore water zones that are a blue carbon ecosystem.

Recommendation: Section 5.2 of the Newfoundland and Labrador *Policy for Development in Wetlands* should be amended to prohibit permits, issued under section 48 of the *Water Resources Act*, for activities that will infill, drain, dredge, channel, or remove the soil or organic cover of wetlands that are part of a blue carbon ecosystem.

Recommendation: The Minister should exercise his discretion under the *Quarry Materials Regulation* to prohibit issuance of quarry permits in blue carbon ecosystems.

Recommendation: The Newfoundland and Labrador Minister of Tourism, Culture, Arts and Recreation should exercise their discretion under the *Provincial Parks Act* to create one or more parks that protect blue carbon ecosystems.

Recommendation: Blue carbon ecosystems should be considered as a unique ecosystem under the Newfoundland and Labrador *Wilderness and Ecological Reserves Act*.



## NOVA SCOTIA

Recommendation: The *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia* should be amended to recognize blue carbon ecosystems aside from wetlands (i.e., salt marshes) as carbon sinks and require proponents to assess their project impacts on these ecosystems.

Recommendation: Nova Scotia should require an environmental assessment for any project that will impact a blue carbon ecosystem, similar to the way that projects affecting wetlands required an EA. This change could be part of a review of the environmental assessment regime in Nova Scotia. It could be implemented by adding the requirement to Schedule A of the *Environmental Assessment Regulations* or an analogous project list.

Recommendation: The Nova Scotia Department of Environment and Climate Change should consider designating one or more coastal areas in Nova Scotia that are home to a blue carbon ecosystem – either a salt marsh or seagrass meadow – as a beach under the *Beaches Act*.

Recommendation: The Nova Scotia Department of Environment and Climate Change should recognize the specific and important function of blue carbon ecosystems because they fall squarely within the scope of the *Coastal Protection Act* and its protections within the coastal protection zone. The regulations currently being created for the *Coastal Protection Act* should include explicit protections for blue carbon ecosystems.

Recommendation: The Nova Scotia Minister of Environment and Climate Change should not approve any wetland alteration if the wetland being altered is a blue carbon ecosystem like a salt marsh.

Recommendation: The carbon sequestration function of wetlands, and particularly the blue carbon sequestration function of salt marshes, should be explicitly set out in the *Nova Scotia Wetland Conservation Policy*.

Recommendation: Nova Scotia should endeavor to update its wetlands inventory to better monitor the province's success in preventing the loss of Wetlands of Special Significance, including salt marshes.

Recommendation: Nova Scotia's strategic plan to address climate change should include strategies to steward and protect blue carbon ecosystems and set a goal of creating a blue carbon ecosystem policy to guide decision-making. Additionally, the Government of Nova Scotia should endeavor to protect blue carbon ecosystems as part of its conservation goal to protect its land and water mass.

Recommendation: The Nova Scotia Aquaculture Review Board could consider aquaculture site impacts on blue carbon ecosystems as part of its consideration of the optimum use of marine resources, but a clear government policy outlining priorities for blue carbon ecosystems is needed to assist in that undertaking. Such a policy would also be helpful for the Minister of Fisheries and Aquaculture when considering applications for sea plant harvesting.

Recommendation: The Governor in Council should create regulations under the *Nova Scotia Crown Lands Act* that provides clarity with respect to how and when "special areas" can be created, and blue carbon ecosystems should be listed as a "special area".

Recommendation: The Nova Scotia Advisory Committee on the Protection of Special Places that is appointed under the *Special Places Protection Act* should recognize that blue carbon ecosystems and the species living there are representative of important natural ecosystems in the province.

Recommendation: The *Our Parks and Protected Areas: A Plan for Nova Scotia* should be updated to reflect the province's current conservation goals under the *Environmental Goals and Climate Change Reduction Act*. The *Plan* should provide clearer guidance with respect to which species, habitats, and ecosystems are a priority for protection. It should also identify the ecological functions and services that provincial ecosystems provide, and that should include the important blue carbon sequestration function of blue carbon ecosystems.

## PRINCE EDWARD ISLAND

Recommendation: Prince Edward Island should require an EIA for all projects impacting a blue carbon ecosystem. This would be facilitated by amending the province's *Environmental Impact Assessment Guidelines* to include projects that impact a blue carbon ecosystem.

Recommendation: The Prince Edward Island Minister of Environment, Energy and Climate Action should not approve activities on wetlands and watercourses, including on beaches, that interfere with or disrupt blue carbon ecosystems.

Recommendation: Any person who undergoes training in Prince Edward Island for a Watercourse, Wetland, and Buffer Zone Activity Certification should receive training on identifying and stewarding salt marshes.

Recommendation: The *Wetland Conservation Policy for Prince Edward Island* should be amended to specifically differentiate between the general wetland function to sequester carbon and the specific ability of blue carbon ecosystems to sequester carbon at high rates. This may help government decision-makers to prioritize stewardship and protection of blue carbon ecosystems and prevent approvals for activities in salt marshes where the only mitigation is compensation.

Recommendation: The Prince Edward Island wetland inventory should be updated to include information that helps set out which wetlands are salt marshes.

Recommendation: The Prince Edward Island Minister of Agriculture and Land should establish a provincial land-use policy under the *Planning Act* that guides the stewardship and management of blue carbon ecosystems.

Recommendation: Blue carbon ecosystems in Prince Edward Island should be considered as either unusual aquatic features or as containing a large amount of undisturbed aquatic habitat. This would allow the Minister of Environment, Energy and Climate to manage and protect blue carbon ecosystems as an aquatic ecosystem protection area under the *Water Act*.

## FEDERAL GOVERNMENT

Recommendation: It should be clear that offsetting measures for the harmful alteration, disruption, or destruction of fish habitat under the federal *Fisheries Act* are not viable options for fish habitat that also serve a blue carbon ecosystem function because of the inefficiency of measures to reverse the damage done.

Recommendation: The carbon sequestration function of blue carbon ecosystems should be recognized as an ecological function within the *Fish and Fish Habitat Protection Policy Statement*.

Recommendation: The *Federal Policy on Wetland Conservation* and the *Federal Policy on Wetland Conservation – Implementation Guide for Federal Land Managers* should be updated to reflect current understandings of the importance of wetlands and the current legislative and policy regimes governing wetlands and related ecological systems. The updated policy should include specific information about the importance of salt marshes as blue carbon ecosystems and the inability to restore or “compensate” this type of wetland function.

# APPENDIX B – COMPARISON OF ATLANTIC CANADIAN LEGAL FRAMEWORKS

|                                   | New Brunswick  | Newfoundland and Labrador  | Nova Scotia  | Prince Edward Island   | Comments  |
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| <b>Assessing Project Impacts</b>  | <p><b>Environmental Impact Assessment Regulation</b></p> <p>Projects will not be required to undergo an EIA for the sole reason that they impact a blue carbon ecosystem. Projects are not legally required to consider project climate change impacts. Some projects, like those that impact two or more hectares of wetlands, require an EIA. If blue carbon sequestration was recognized as a “unique”, “rare”, or “endangered feature of the environment, then all projects that impact blue carbon ecosystems would require an EIA.</p> | <p><b>Environmental Assessment Regulations</b></p> <p>Projects will not be required to undergo an EIA for the sole reason that they impact a blue carbon ecosystem. Projects are not legally required to consider project climate change impacts. Some projects, like those that impact two or more hectares of wetland, a watercourse, or infill an estuary, require an EA.</p>   | <p><b>Environmental Assessment Regulations</b></p> <p>Projects will not be required to undergo an EIA for the sole reason that they impact a blue carbon ecosystem. Projects are not legally required to consider project climate change impacts. Some projects, like those that impact two or more hectares of wetland or peat moss harvesting, require an EA. The <i>Guide to Considering Climate Change in Environmental Assessments in Nova Scotia</i> requires proponents to assess their project carbon footprints, including impacts on carbon sinks.</p> | <p><b>Environmental Impact Assessment Guidelines</b></p> <p>No listed projects, which commonly require an environmental impact assessment, deals with impacts on types of environments. Therefore, projects will not be required to undergo an EIA for the sole reason that they impact a blue carbon ecosystem. However, projects may require EIA if they cause an emission or discharge of any contaminant into the environment, or if they affect any unique, rare, or endangered feature of the environment.</p> | <p>In their current forms, the assessment regimes for projects in each of the four Atlantic provinces will never cover all the possible activities that impact blue carbon ecosystems because they are based on prescriptive project lists. Even for larger projects, proponents may not be required to assess the impacts on carbon sinks, although there has been a shift (especially in Nova Scotia) requiring some consideration of impacts on carbon sinks. To help guide project assessments, provincial laws or policies need to (a) identify the unique importance of blue carbon ecosystems to sequester carbon and (b) prioritize the stewardship of these ecosystems specifically.</p> |
| <b>Development &amp; Planning</b> | <p><b>Clean Environment Act</b></p> <p>Governs a variety of environmental issues. Under the Act, a Wetland Designation Order or Coastal Designation Order could be used to create a protected area for a wetland or coastal area, respectively. These could apply to blue carbon ecosystems.</p>   | <p><b>Environmental Protection Act</b></p> <p>Governs a variety of environmental issues. Unlike other Atlantic provinces, there is no prohibition on alteration of wetlands in Newfoundland and Labrador. The Act requires the Minister to determine whether an undertaking (a project that triggers an EIA) is contrary to law or policy. If a policy existed in the province that prohibited destruction of blue carbon ecosystems or had a goal of no loss of wetland function that included carbon sequestration, the responsible minister would be guided in determining whether a project was contrary to law or policy.</p> | <p><b>Environment Act</b></p> <p>Governs variety of environmental issues. Under the Act, all wetland and watercourse alterations require approval. This process is further set out in the <i>Activities Designation Regulations</i> and guided by the <i>Wetlands Conservation Policy</i>.</p>   | <p><b>Environmental Protection Act</b></p> <p>Governs a variety of environmental issues. The Act prohibits activities that may alter or otherwise damage beaches or sand dunes, including vegetation.</p>  | <p>New Brunswick (see the <i>Clean Water Act</i>), Nova Scotia, Prince Edward Island each restricts or prohibits alteration of watercourses and wetlands. While these restrictions can help to steward and protect salt marshes and even areas of watercourses that may be seagrass meadows (within the province's coastal land), the approval processes provide broad discretion to the Minister. These processes are guided by provincial policies that neither recognize the importance of blue carbon ecosystem function, nor prioritize their protection. Newfoundland and Labrador will require stronger wetlands protections.</p>  |

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| <p><b>Clean Water Act</b></p> <p>Requires a permit for watercourse or wetland alteration. The permitting process is set out in the <i>Watercourse and Wetland Alteration Regulation</i>.</p>   | <p><b>Water Resources Act</b></p> <p>Designed for control and management of water resources. Under the Act, the responsible minister may control and determine use of wetlands where there may be impacts on hydrology or ... other natural functions and uses. Undertakings impacting water resources require a permit. Several policies are created under the Act to guide the permitting process.</p> | <p><b>Water Resources Protection Act</b></p> <p>Is not direct equivalent. Water resources are primarily governed under the <i>Environment Act</i>.</p>   | <p><b>Water Act</b></p> <p>Governs water resources and aquatic ecosystems that support them. Its objective is to support and promote management, protection, and enhancement of water resources. The responsible minister may create protection areas, including either a water sustainability plan area or an aquatic ecosystem protection area. These could be used to protect blue carbon ecosystems.</p> | <p>Although provincial statutes that govern water resources generally apply to water resources, rather than aquatic ecosystems, the Prince Edward Island <i>Water Act</i> is used to protect aquatic ecosystems. However, similar to how species and habitat protection legislation work, the focus of the <i>Water Act</i> is on conserving ecosystems that contain rare, endangered, or uncommon aquatic species or their habitat, unusual features, exceptional biodiversity, or undisturbed aquatic habitat.</p>     |
| <p><b>Watercourse and Wetland Alteration Regulation</b></p> <p>The Minister has discretion to issue a permit for watercourse or wetland alteration. This process is guided by the <i>Watercourse and Wetland Alteration Technical Guidelines</i>. Harvesting of aquatic plants and peat harvesting are exempt from needing an alteration permit.</p>             | <p><i>No direct equivalent.</i></p>  | <p><b>Physical Activities Designation Regulations</b></p> <p>Includes provisions relevant to watercourse and wetlands alterations permitting, which is guided by the <i>Wetland Conservation Policy</i>.</p>   | <p><b>Watercourse and Wetland Protection Regulations</b></p> <p>Prohibit anyone from altering a watercourse or wetland without a licence or permit.</p>  | <p>Permitting for wetland alterations should be guided by comprehensive provincial policy that (a) recognizes that carbon sequestration is a wetland function, (b) recognizes the exceptional ability of salt marshes, as blue carbon ecosystems, to sequester carbon, and (c) prioritizes their stewardship and protection.</p>   |
| <p><b>Wetlands Conservation Policy</b></p> <p>The policy guides decision-making for wetlands and has an objective of no loss of provincially significant wetland habitat (coastal marshes are provincially significant wetlands) and no net loss of wetland function for all other wetlands. Blue carbon sequestration is not considered a wetland function.</p> | <p><b>Policy for Development in Wetlands</b></p> <p>Establishes criteria for permits needed in wetlands. The objective of the policy is to prevent adverse effects of development on hydrologic characteristics or functions and aquatic habitats of wetlands. The policy is heavily weighted towards allowing development in wetlands.</p>  | <p><b>Wetland Conservation Policy</b></p> <p>Sets an overarching goal of no net loss of wetlands, alongside the goal of no loss in "Wetlands of Special Significance" and the goal of preventing net loss in area and function for other wetlands. The policy does not recognize the blue carbon sequestration function of blue carbon ecosystems.</p> | <p><b>Wetland Conservation Policy for Prince Edward Island</b></p> <p>Provides guidance for wetlands stewardship and protection and sets a goal to achieve no net loss of wetlands and wetland function.</p>   | <p>None of the Atlantic provinces have wetland conservation policies that recognize the ability of salt marshes to sequester carbon at higher rates than other types of wetlands. While New Brunswick and Nova Scotia use policy to give special protection to provincially significant wetlands (i.e., salt marshes), more focus should be on wetland function rather than just habitat. The wetlands inventories are outdated, which prevents monitoring of goals to prevent loss of wetland habitat and function.</p> |

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| <p><b>Coastal Areas Protection Policy</b></p> <p>Establishes two zones that allow or restrict different types of development activity along the coast. There are no specific protections for blue carbon ecosystems.</p>  | <p><b>Policy for Development in Shore Water Zones</b></p> <p>Establishes criteria for issuing permits needed in shore water zones. The objective of the policy is to minimize impacts on water quality and quantity and aquatic habitats. There are no prohibitions on permits for activities that impact the integrity of coastal ecosystems.</p>   | <p><b>Coastal Protection Act*</b></p> <p>Will govern human development and activity along the coast within a designated “Coastal Protection Zone”. However, the protections provided under the Act are not directly relevant to stewarding or protecting blue carbon ecosystems outside of the indirect benefits associated with limiting human development along the coast.</p> <p><i>*Not currently in force.</i></p> | <p><i>No direct equivalent.</i></p>  | <p>It is standard practice in coastal protection policies and legislation to create one or more coastal zones. The provincial policies in New Brunswick and Newfoundland and Labrador serve to guide decision-making under related legislation, but there are no specific provisions that set priorities or a set of factors to guide decision-making. In Nova Scotia, the <i>Coastal Protection Act</i> is not yet in force, and the extent and the reach of proposed regulations will determine the extent of protection to coastal ecosystems.</p> |
| <p><b>Crown Lands and Forests Act</b></p> <p>Provides general authority over Crown lands. The Act does not require the responsible minister to consider impacts on blue carbon ecosystems before issuing a lease or licence for crown lands. Provincial policies are silent on how they guide the responsible minister’s decision-making under the Act.</p>         | <p><b>Lands Act</b></p> <p>Provides general authority and management over Crown lands. The Act provides the responsible minister with broad authority to set apart Crown lands for the “purpose and period” set out in an order. The Lieutenant-Governor in Council may also designate an area of the province as a “special management area”. The Act does not provide criteria for what a special management area is so blue carbon ecosystems could be set aside using these order-making powers.</p> | <p><b>Crown Lands Act</b></p> <p>Governs the development of provincial crown land. The responsible minister can set aside special areas on crown lands, including for the purposes of protecting, managing and conserving wildlife and wildlife habitat. “Special area” is not defined.</p>   | <p><b>Planning Act</b></p> <p>Governs the use and planning of provincial crown land and seeks to protect the natural and built environment from development. The responsible minister has broad power of matters of provincial interest under the Act, including protection, conservation, and management of coastal areas and mitigation of greenhouse gas emissions. The Lieutenant Governor in Council has broad powers to make regulations that create conservation areas and environmentally sensitive areas. These may be applied to blue carbon ecosystems.</p> | <p>Each Atlantic province has a statute that deals with governance of provincial crown lands. Generally, activities that are planned to occur on crown lands require permission (approvals, permits, etc.) from the responsible minister. Impacts on blue carbon ecosystems are not considered when making decisions about crown land.</p>  |
| <p><b>Quarriable Substances Act</b></p> <p>Governs peat exploration and harvesting. It is the policy of New Brunswick, under the <i>Peat Mining Policy</i>, to “maximize the benefits of using peat, a non-renewable resource, by promoting increased processing in the Province of New Brunswick and by addressing the issue of post-mining site reclamation”.</p> | <p><b>Quarry Materials Act</b></p> <p>Governs mining of quarriable materials, including peat. The Act prohibits any person from harvesting peat without a permit or lease. The responsible minister can determine areas in the province that are not available for quarry permits or exploration licences to protect environmentally sensitive areas.</p>  | <p><i>No direct equivalent.</i></p>   | <p><i>No direct equivalent.</i></p>  | <p>New Brunswick and Newfoundland and Labrador continue to allow peat harvesting, and there are no effective policies that restrict peat harvesting in the most sensitive areas (i.e., salt marshes).</p>   |

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| <p><b>Marshland Infrastructure Maintenance Act</b></p> <p>designed to manage and conserve “marshland infrastructure”, which includes dykes, aboiteaux, dams, ditches, and roads. There is no guidance or restriction with respect to marshland infrastructure that is situated in salt marshes.</p> | <p><i>No direct equivalent.</i></p> | <p><b>Agricultural Marshlands Conservation Act</b></p> <p>Designed to manage and conserve agricultural marshland. There are no restrictions or criteria with respect to how marshes can be utilized as agricultural marshlands. There is no guidance or restriction for coastal marshlands.</p>   | <p><i>No direct equivalent.</i></p>   | <p>Agricultural marshlands are highly prioritized in Nova Scotia and New Brunswick, with many exceptions for agricultural activities where they occur in wetland or coastal areas.</p>  |
| <p><i>No direct equivalent.</i></p>   | <p><i>No direct equivalent.</i></p> | <p><b>Beaches Act</b></p> <p>Designed to protect designated beaches. Prohibitions and restrictions apply to designated beaches, and a blue carbon ecosystem could be given some protections if it was designated as a beach.</p>  | <p><i>No direct equivalent but see <b>Recreation Development Act</b> below.</i></p> | <p>Although Nova Scotia has a dedicated <i>Beaches Act</i>, all four Atlantic provinces provide some protections to beaches by virtue of protections for watercourses or coastal areas.</p>   |
| <p><i>No direct equivalent.</i></p>   | <p><i>No direct equivalent.</i></p> | <p><b>Environmental Goals and Climate Change Reduction Act</b></p> <p>Sets legislated goals, including greenhouse gas emissions reduction goals. Also requires the creation of a strategic plan to address climate change. It sets a goal to conserve 20% of provincial land by 2030. While not directly relevant to protecting blue carbon ecosystems, the goals may be leveraged to draw attention to the need to steward blue carbon ecosystems. Future amendments could create blue carbon ecosystem stewardship or protection goals.</p> | <p><i>No direct equivalent.</i></p>   | <p>Sustainable development goals legislation or policy can be effective at generating momentum for stewarding and protecting blue carbon ecosystems. Specific goals to steward and protect blue carbon ecosystems could be implemented.</p> |



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| <p><i>No direct equivalent.</i></p> | <p><b>Urban and Rural Planning Act</b></p> <p>Governs municipal planning and land use in Newfoundland and Labrador (aside from the provincial <i>Municipalities Act</i>). Allows for the creation of land use policies and the declaration of protected areas to preserve an area of natural beauty or amenity. This power may be used to protection blue carbon ecosystems if their blue carbon sequestration function could be considered an “amenity” (not defined).</p>   | <p><i>No direct equivalent</i></p>  | <p><i>No direct equivalent.</i></p> | <p>Generally, municipalities are responsible for land-use by-laws, which can include setting priorities and strategies for developing land or restricting human development and activities. There are opportunities for provincial governments to guide municipalities with respect to land-use.</p> |
| <p><i>No direct equivalent.</i></p> | <p><b>Labrador Inuit Land Claims Agreement</b></p> <p>Recognizes and affirms Inuit rights and allows the Nunatsiavut government to exercise considerable jurisdiction over coastal Labrador Inuit Lands that could allow Inuit stewardship over blue carbon ecosystems in accordance with Inuit laws. For example, under the Agreement, the Nunatsiavut Government needs to be consulted before a provincial or federal marine protected area is created or changed that would impact the Labrador Inuit Settlement Area, or before a strategy for management of estuarine, coastal, or marine areas is finalized. It also allows the Nunatsiavut Government to establish and implement an environmental assessment regime imposing Inuit environmental laws within Labrador Inuit lands.</p> | <p><i>No direct equivalent.</i></p> | <p><i>No direct equivalent.</i></p> | <p>Indigenous peoples should be directly involved with stewardship and protection efforts for blue carbon ecosystems. Indigenous peoples throughout Atlantic Canada have their own laws which can be applied to steward and protect blue carbon ecosystems.</p>                                      |

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| <b>Fisheries &amp; Aquaculture</b> | <p><b>Aquaculture Act</b></p> <p>Governs aquaculture activities. May be applicable to harvesting of some blue carbon ecosystem species. Under the <i>General Regulation - Aquaculture Act</i>, the registrar responsible for aquaculture may refuse to issue, renew, or amend an aquaculture licence if it would cause undue conflict with “ecologically and environmentally sensitive areas” (this is left undefined).</p> | <p><b>Aquaculture Act</b></p> <p>Governs aquaculture activities including farming of aquatic plants. There are no criteria in the Act that guide the licencing process. Assessments of licence applications do not require assessment of risks to the environment and ecosystems.</p> | <p><b>Fisheries and Coastal Resources Act</b></p> <p>Governs fishery and aquaculture activities, including harvesting of sea plants. The Act requires the creation of an aquaculture review board, which considers new aquaculture licences or amendments to existing licences. The board must consider eight factors, including the optimum use of marine resources (in the context of a specific site). There is no guidance to help the board consider how to consider the factors.</p> | <p><i>No direct equivalent.</i></p>   | <p>Aquaculture legislation and policy in New Brunswick, Newfoundland and Labrador, and Nova Scotia are not effective for stewarding or protecting blue carbon ecosystems. The existing regimes do not require assessment of aquaculture impacts on their ecosystems. The Prince Edward Island regime, which is federally managed under the <i>Fisheries Act</i>, works in a similar manner.</p> |
|                                    | <p><i>No direct equivalent.</i></p>   | <p><i>No direct equivalent.</i></p>   | <p><b>Rockweed Harvesting Regulations</b></p> <p>Govern the harvesting of <i>Ascophyllum nodosum</i> and <i>Fucus</i> rockweed species. Generally, anyone can harvest rockweed unless that area is closed by the Minister under the regulations.</p>   | <p><i>No direct equivalent.</i></p>   | <p>Only Nova Scotia regulates rockweed harvesting. New Brunswick and Newfoundland and Labrador could consider similar regulation under their respective aquaculture regimes.</p>  |
|                                    | <p><b>Fish and Wildlife Act</b></p> <p>Used primarily to regulate recreational hunting, trapping, and angling. No application to management of blue carbon ecosystem plant species.</p>   | <p><b>Wildlife Act</b></p> <p>Used primarily to regulate recreational hunting, trapping, and fishing. No application to management of blue carbon ecosystem plant species.</p>  | <p><b>Wildlife Act</b></p> <p>Used primarily to regulate recreational hunting, trapping, and fishing. No application to management of blue carbon ecosystem plant species (only applies to vertebrates and their habitats). If protected wildlife lives in a blue carbon ecosystem, that habitat may be provided protection under the Act (i.e., by wildlife sanctuaries, management areas, or parks).</p>   | <p><b>Wildlife Conservation Act</b></p> <p>Used primarily to regulate recreational hunting, trapping, and fishing. The province’s endangered species provisions are also contained in the Act. No application to management of blue carbon ecosystem plant species.</p> | <p>The Atlantic provinces’ wildlife legislation is not geared towards protecting plant species that would be present in salt marshes or seagrass meadows. Like species at risk legislation, the focus of wildlife legislation is on individual species and their habitats, rather than a broader ecosystem approach.</p>  |

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| <b>Species &amp; Habitat Protections</b> | <p><b>Parks Act</b></p> <p>Allows provincial lands to be designated as provincial parks. Since protecting ecosystems is an objective of the Act, a blue carbon ecosystem could be protected as a park. A resource management plan is required for each park and could be created to help guide the stewardship of blue carbon ecosystems. Since the process to create resource management plans is new, there is opportunity to incorporate guidance for blue carbon ecosystem management.</p> | <p><b>Provincial Parks Act</b></p> <p>Allows provincial lands to be designated as provincial parks and provides protection against certain activities and development. There are no objectives or goals with respect to what provincial parks are meant to protect, so provincial parks could be used to protect blue carbon ecosystems.</p>          | <p><b>Provincial Parks Act</b></p> <p>Allows the creation, management, and protection of provincial parks. One of the objectives is to preserve “unique”, “rare”, “representative” or otherwise “significant elements of the natural environment”. The broad protections available under the Act could be applied to protect blue carbon ecosystems if they were considered as one or more of these designations.</p>      | <p>See <b>Recreation Development Act</b> below.</p>   | <p>Provincial parks are generally designed to be areas of the province that are protected, but which still have regular use by the public for recreational activities.</p>   |
|  | <p><b>Protected Natural Areas Act</b></p> <p>Allows protected natural areas to be created to protect “unique” or “ecologically sensitive” areas. The Act could be used to protect blue carbon ecosystems, but they would need to be recognized as being “unique” or “ecologically sensitive”.</p>  | <p><b>Wilderness and Ecological Reserves Act</b></p> <p>Enables natural areas to be set aside as wilderness reserves or ecological reserves. These are areas that contain “representative” or “unique” ecosystems, species, or natural phenomena. If blue carbon ecosystems had one of these designations, they could be protected under the Act.</p> | <p><b>Wilderness Areas Protection Act</b></p> <p>Provides for the establishment, management, and protection of “wilderness areas” to promote biodiversity, protection representative landscapes and ecosystems, and to protect “unique”, “rare”, and “vulnerable” natural features. Wilderness areas offer some of the most restrictive protections in the province and may be used to protect blue carbon ecosystems.</p> | <p><b>Natural Areas Protection Act</b></p> <p>Used to preserve natural areas, which are lands that contain natural ecosystems or constitute habitat of rare, endangered, or uncommon plants and animals, or that contain unusual botanical, zoological, geological, or morphological features. Because a focus of the Act is on “natural ecosystems”, blue carbon ecosystems likely could be protected under the Act.</p> | <p>The primary issue with provincial legislation that is geared to protecting species and ecosystems is that the legislation is focused on protecting “unique”, “rare”, “uncommon” or “representative” species and ecosystems. The value of blue carbon ecosystems is not their rarity, but their important blue carbon sequestration function (they may also be home to unique or rare species). Laws that create wilderness or nature areas are more focused on an ecosystem approach, rather than being focused on specific species or habitat.</p> |
|  | <p><b>Species at Risk Act</b></p> <p>The Act does not allow for an entire ecosystem to be designated as species at risk, but if a species at risk lives in a blue carbon ecosystem, that habitat may be provided protection under the Act.</p>   | <p><b>Endangered Species Act</b></p> <p>The Act does not allow for an entire ecosystem to be designated as an endangered species, but if an endangered species lives in a blue carbon ecosystem, its habitat may be provided protection under the Act.</p>  | <p><b>Endangered Species Act</b></p> <p>The Act does not allow for an entire ecosystem to be designated as an endangered species, but if an endangered species lives in a blue carbon ecosystem, its habitat may be provided protection under the Act.</p>   | <p>See <b>Wildlife Conservation Act</b> above.</p>  | <p>Species at risk laws in Atlantic Canada are not meant to protect ecosystems, and so are not a great tool for stewarding or protecting blue carbon ecosystems generally.</p>   |

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| <p><i>Multiple statutes contain equivalent provisions.</i></p> | <p><i>Multiple statutes contain equivalent provisions.</i></p> | <p><i>Multiple statutes contain equivalent provisions.</i></p>  | <p><b>Recreation Development Act</b></p> <p>Allows the Lieutenant Governor in Council to designate any area of public or private land as one of the following: a provincial park for the benefit, advantage, and enjoyment of the public; a protected area, including for the purpose of preserving aesthetics, education, historical or scientific interest; and a protected beach.</p> | <p><i>See comments above.</i></p>  |
| <p><i>No direct equivalent.</i></p>                            | <p><i>No direct equivalent.</i></p>                            | <p><b>Special Places Protection Act</b><br/>Designed to protect and manage sites, including ecological sites that are representative of natural ecosystems or which contain rare or endangered native plants and animals (special places). The powers available under the Act may be applied to blue carbon ecosystems.</p>                   | <p><i>No direct equivalent.</i></p>  | <p><i>See comments above.</i></p>  |
| <p><i>No direct equivalent.</i></p>                            | <p><i>No direct equivalent.</i></p>                            | <p><b>Our Parks and Protected Areas: A Plan for Nova Scotia</b> Meant to guide the management and protection of provincial parks and park reserves, wilderness areas, and nature reserves. The plan does not currently reflect the province's current goals or set clear priorities with respect to which ecosystems should be protected.</p> | <p><i>No direct equivalent.</i></p>  | <p>The approach taken by Nova Scotia to coordinate species and habitat protections may be an effective way to establish provincial or regional stewardship and conservation priorities. This would be especially effective because multiple government departments and agencies are usually responsible for laws and policies that may apply to blue carbon ecosystems. Provincial policy or strategy should take an ecosystem approach to conservation and set out priorities for types of ecosystems that should be protected.</p> |