

Feedback and Advice on Nova Scotia's Draft Coastal Strategy

**Summary Report of the Coastal Working Groups
January 2012**

**Prepared for the Nova Scotia Department of Fisheries and
Aquaculture and the Provincial Oceans Network by:**

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1. Introduction

From October 13 to December 16 2011, Nova Scotians were invited to comment on the Government of Nova Scotia's draft Coastal Strategy. The draft Coastal Strategy was developed by the inter-departmental Provincial Oceans Network (PON) based on information compiled in *The 2009 State of Nova Scotia's Coast Report* [<http://www.gov.ns.ca/coast/state-of-the-coast.asp>] and input received during the 2010 coastal consultations. In the draft Strategy, the Government of Nova Scotia puts forward a number of goals, objectives, actions and ideas for addressing seven priority coastal issues. As part of this consultation process, the Marine Affairs Program (MAP) of Dalhousie University worked with the PON Secretariat to establish working groups to provide expert advice on each of the priority coastal issues addressed in the draft Coastal Strategy.

The purpose of this report is to provide a summary of the feedback and advice on the draft Coastal Strategy gathered during the working group process. It is not the intent of this report to cite all comments and advice received from the working groups, but to summarize the main themes, comments and discussion points. It is important to note that the intent of this report is to capture the range of perspectives on the draft Coastal Strategy put forward by the working group members. Therefore, the working groups did not necessarily reach consensus on the statements included in this report. Instances where there was consensus or broad disagreement among working group members regarding a particular point are noted in the report.

A working group was established for each of the seven priority coastal issues. The working groups were comprised of individuals with recognized expertise on the coastal issues. Each working group had between five and seven members, except for the Governance working group which had 17 members. A total of 47 people participated in the coastal working groups, four of whom were members of two different working groups. The working group members are shown in Appendix I.

The working groups were asked to perform three tasks:

1. Review the draft Coastal Strategy.
2. Complete a questionnaire about the draft Coastal Strategy.
3. Attend a meeting with other working group members and members of the PON Secretariat to discuss the draft Strategy and provide feedback and advice.

Working with the PON Secretariat, MAP prepared a questionnaire about the draft Coastal Strategy for each of the working groups to complete. The questionnaires are shown in Appendix II. The purpose of the questionnaires was to gather written input and advice from the working groups and to identify key themes and discussion points for the working group meeting. Overall, 82% of working group members completed the questionnaire (42 of 51). The completed questionnaires will be reviewed by PON as they prepare the final Coastal Strategy.

Introduction

From November 15 – 22 2011, each of the seven working groups met separately with representatives of the PON Secretariat to discuss the draft Coastal Strategy and the working groups' responses to the questionnaire. Members of the working group were not expected to reach consensus on any particular point of discussion or issue during the meeting. Overall, 86% of working group members attended the meetings (44 of 51).

The main themes, comments and advice raised during the working group process are summarized below. Section 2 summarizes the cross-cutting themes and general comments about the draft Coastal Strategy. Sections 3 – 9 provide a summary of the feedback and advice specific to each of the priority coastal issues. This report and the completed questionnaires, along with all other feedback gathered during the consultation period [see: <http://www.gov.ns.ca/coast/consultation.asp>], will be used to shape the final version of the Coastal Strategy.

2. Cross-Cutting Themes and General Comments

During the working group process, a number of cross-cutting themes and general comments about the draft Coastal Strategy emerged that applied to the entire document or multiple sections of the document. These cross-cutting themes and general comments are summarized below.

- The most common point raised across the working groups is that the Coastal Strategy should include measurable targets and timelines for each of the objectives and actions, and designate lead departments and agencies to oversee their implementation and monitor/report progress. Several participants noted that use of words like ‘increase’ and ‘improve’ throughout the document have no real value since they are not measurable against quantifiable targets.
- Many participants felt that the Strategy’s objectives and actions were too vague and that they should be more specific and detailed.
- The Coastal Strategy should do a better job of communicating the strong linkages between the various priority coastal issues. It was suggested that it may be appropriate to list some objectives under multiple issues. Some of the key linkages mentioned include:
 - ***Governance/All other issues:*** Governance is a cross-cutting issue and the goal, objectives and actions for this issue are essential for achieving the goals, objectives and actions of all other issues.
 - ***Coastal development/Sea-level rise and storm events:*** The goals, objectives and actions for these two issues are complementary and there is much overlap. Some members of the working groups indicated that they needed to read both sections together to fully understand how the Coastal Strategy intended to address coastal development and coastal hazards.
 - ***Sea-level rise and storm events/Working waterfronts:*** Some existing waterfront infrastructure should be abandoned in lieu of investment in infrastructure capable of withstanding higher sea-levels and increased storm surge events. Rebuilding damaged infrastructure only for it to be damaged again is not a sustainable practice.
 - ***Coastal development/Sea-level rise and storm events/Coastal ecosystems and habitats:*** Rising sea-levels and coastal erosion will have substantial impacts on coastal ecosystems and habitats in the Province. Coastal development patterns will affect the ability of coastal ecosystems and habitats to adapt to these changes (coastal squeeze). The Coastal Strategy does not explicitly recognize these important linkages.
 - ***Coastal ecosystems and habitats/Public coastal access:*** Public coastal access to ecologically-significant or sensitive coastal areas can disturb, fragment and degrade habitat. There is a need to balance recreational and coastal access needs with ecosystem health.
 - ***Coastal ecosystems and habitats/Coastal water quality:*** Coastal water quality is an important factor in the health of coastal ecosystems and habitats. The coastal water quality section should have a third objective about the relationship between water

Cross-Cutting Themes and General Comments

quality and healthy marine ecosystems, so it may be advantageous for these two sections to share an objective.

- A number of participants pointed out that there is potential for conflict between the seven issue goals and there will likely be situations where achieving one goal comes at the expense of another. For example, increasing public coastal access could be detrimental to the conservation of coastal ecosystems and habitats. Another example is the need to locate certain types of development (e.g., infrastructure for working waterfronts) at or near the shoreline where it is vulnerable to coastal hazards. It was suggested that the Coastal Strategy recognize the potential for conflict among the goals and include guidance about how these potential conflicts will be addressed.
- A common comment made by members of the working groups is the Coastal Strategy should emphasize its many strong linkages with a number of other provincial strategies and policies including: the Water Resources Management Strategy (Water Strategy), the Natural Resources Strategy, the Wetland Conservation Policy, and the Climate Change Action Plan. These linkages are not clear in the draft Strategy. Some of the more specific suggestions regarding these linkages are listed below.
 - The coastal water quality section could be strengthened by describing how it links to and is complemented by the Water Strategy. There is also potential for these two strategies to share goals, objectives and actions.
 - The coastal ecosystems and habitats section could be strengthened by describing how it links to and is complemented by the Natural Resources Strategy. It was suggested that the scope of the goal and objectives for coastal ecosystems and habitats be expanded to include coastal wildlife, species at risk, and ecologically-significant areas. The Natural Resources Strategy could provide guidance in this regard.
 - The public coastal access section could be strengthened by describing how it links to and is complemented by the Natural Resources Strategy.
- The draft Coastal Strategy makes several references to the jobsHere Plan. A number of working members commented that the linkages between the Strategy and the jobsHere Plan were not clear and that the Strategy should include a better explanation of the linkages.
- The action “Establish coastal development standards” was identified as a priority action by members of the coastal development, sea-level rise and storm events, coastal ecosystems and habitats, and coastal water quality working groups. There was strong support from the working groups for establishing coastal setbacks (both horizontal and vertical) and buffers in the Province. Some members of the public coastal access and working waterfront working groups suggested that coastal development standards could also be used as a tool for addressing these issues as well.
- The issue of shoreline armoring was raised by members of the coastal development, sea-level rise and storm events, and coastal ecosystem and habitats working groups. The working groups felt that the Coastal Strategy should somehow address the issue of shoreline

Cross-Cutting Themes and General Comments

armouring. It was suggested that the Government of Nova Scotia could develop guidelines and/or regulations for shoreline armouring, and raise public awareness about its impacts and alternative shoreline protection measures.

- Preventing development in inappropriate areas (highly vulnerable to coastal hazards, presence of sensitive or ecological-significant features, etc.) was identified by a number of participants as one of the most important outcomes of the Coastal Strategy.
- A number of participants pointed out that a significant portion of coastal land is owned or regulated by the federal government, or is impacted by federal activities (e.g., federal crown corporations involved in development, First Nations reserves). They suggested that the Coastal Strategy should recognize the need to engage the federal government in the management of these coastal areas.
- Some working group members thought the draft Coastal Strategy was too focused on economic aspects of coastal development, while others thought it was environmentally focused (but not overly so).
- Many participants mentioned that they would like to see the Government of Nova Scotia invest in LiDAR coverage for the entire coastline of the Province. While participants recognized that there are substantial costs associated with gathering LiDAR data, they indicated that it would be a good investment considering the value of infrastructure at risk and the range of potential applications for data. The coastal development, sea-level rise and storm events, coastal water quality, coastal ecosystems and habitats, and governance working groups all mentioned that this information could be used to support many of the actions in the Coastal Strategy. While there was strong support for acquiring additional LiDAR data, it is important to note that a number of participants think there are enough data and information available to implement most of the actions, and that a lack of LiDAR data for a particular coastal area should not be used as an excuse for inaction.
- Articulating the substantial costs and risks associated with not addressing the priority coastal issues, as well as the value and benefits of coastal ecosystem services, could help build greater public and political support for the Coastal Strategy.
- Greater collaboration and information sharing between the various levels of government, departments, and stakeholders was repeatedly identified as essential to the success of the Coastal Strategy and a key step in the implementation of many of the actions.

3. Governance

Feedback and advice on the draft Coastal Strategy provided by the governance working group is summarized below. Section 3.1 summarizes the working group's comments and advice on the goal and objectives for this issue. Unlike the other coastal issue working groups who were asked to provide feedback on each of the actions proposed in the Strategy to address a particular issue, the governance working group was instead asked to provide feedback on three key aspects of the governance issue including: (1) the overall approach that the Government of Nova Scotia should use to reform coastal governance (legislative vs. networked); (2) the creation of a lead body for coastal management within the Government of Nova Scotia; and (3) ongoing and consistent ways to engage Nova Scotians in the Coastal Strategy. Sections 3.2 – 3.4 summarize the working group's comments and advice on these three focus areas. Since the coastal governance system has a strong influence on the ability for governments and stakeholders to address all other coastal issues, a number of the other working groups raised some important points about governance. These key points are summarized in Section 3.5. Section 3.6 summarizes the information needs and knowledge gaps related to coastal governance in Nova Scotia identified by the working groups.

It is important to note that the intent of this report is to capture the range of perspectives on the draft Coastal Strategy put forward by the working group members. Therefore, the working groups did not necessarily reach consensus on the statements included in this report. Instances where there was consensus or broad disagreement among working group members regarding a particular point are noted in the report.

3.1 Goals and Objectives

- Some members of the working group thought that the goal and objectives set the right direction for addressing this issue. Others felt that the goal and objectives would not result in substantial improvements in coastal governance in Nova Scotia, and suggested the following:

Comments on the goal 'Governments and citizens working together to better manage the coast':

- The goal is not clear about what the governance system is supposed to achieve.
- It was suggested that the goal include references to “sustainable development” and “effective coastal management” with accompanying definitions for these terms.
- The goal should be clear that the governance system needs to be improved to deliver on the goals and objectives for the other six priority coastal issues.
- Goals and objectives should be measurable. Better management of the coast cannot easily be measured.
- “Working together” is just one aspect of good governance.

Comments on the objective ‘Improve public awareness and knowledge of the coastal environment, economy, and people’:

- It is not clear how this objective relates/supports the goal.
- This objective should also include public awareness of legislation, regulations and decision-making processes.

Comments on the objective ‘Share information among departments, governments and the public’:

- The descriptive text indicates that this objective is about improving decision-making by others. Some working group members commented on this statement:
 - It was suggested that this objective is more about transparency than decision-making; and transparency is more of a principle than an objective.
 - It is not only necessary to improve decision making by others, but to ensure collective, collaborative and cooperative decision-making.
- Information sharing is bounded by the constraints of privacy legislation.

Comments on the objective ‘Create opportunities for Nova Scotians to address coastal issues in their communities’:

- Some working group members thought this objective should be about creating a formal role for Nova Scotians in coastal governance and management.

Comments on the objective ‘Improve cooperation among departments and levels of government’:

- Several working group members identified this objective as the most important and suggested that it be listed first in the Coastal Strategy.

General comments on the preamble, goal and objectives:

- The goal and objectives are focused primarily on governmental processes.
 - Process-based objectives have not worked well in the U.S. It may be better for the goal and objectives to focus on measurable “on-the-ground” outcomes rather than governance processes.
 - The important role of communities, industry and other non-governmental stakeholders in the governance system should be better recognized in the goal and objectives.
- This is the most important and cross-cutting of all seven coastal issues and it should therefore be listed first in the Coastal Strategy.
- The objectives are vague and should be more specific.
- Relevant federal-provincial Memorandum of Understandings (MOUs) (e.g., MOUs between the Government of Nova Scotia, Fisheries and Oceans Canada (DFO) and Environment

Canada) support the goal and objectives and should therefore be explicitly referenced in the Coastal Strategy.

3.2 Overall Approach to Coastal Governance

Studies of existing coastal management programs have identified two main types of coastal governance approaches based on how various coastal management activities are controlled: networked and legislative.¹

- **Networked:** Existing government sectors and institutions remain. No new specific coastal management legislation is enacted. Sector coordination is improved through ‘networking’ of existing legislation and policies.
- **Legislative:** New specific coastal management legislation is enacted. This legislation can have a variety of purposes, such as defining the form of a coastal program and outlining mechanisms for delegating power and/or money to a new or existing lead agency or coordinating body.²

The advantages and disadvantages of the networked and legislative approaches identified by the working group are shown in Table 1 below.

Table 1. Advantages and disadvantages of the networked and legislative approaches.

Networked Approach	
Advantages	Disadvantages
<ul style="list-style-type: none"> • This approach is already being used in Nova Scotia and could therefore be enhanced and implemented more quickly and easily. • Requires only a low investment in political capital. • Each member of the network contributes without feeling threatened by loss of power or influence. • Avoids disputes between government departments and agencies over the allocation and reallocation of responsibilities. • More adaptive to changes in socio-economic, political, environmental conditions than legislation. 	<ul style="list-style-type: none"> • Less accountability. • Few incentives for government departments to cooperate. • Focuses on inter-departmental and inter-governmental coordination at the expense of governance elements that are external to government. • Government departments tend to focus on core mandates, particularly during periods of fiscal restraint. • Roles and responsibilities of various government departments and stakeholders are not clear. • Relies heavily on the cooperation and support

¹ Born SM and Miller AH. 1988. Assessing Networked Coastal Zone Management Programs. *Coastal Management* 16: 229-243; Kay R and Alder J. 2005. *Coastal Planning and Management*. New York: Taylor & Francis; Knecht RW, Cicin-Sain B and Fisk GW. 1996. Perceptions of the performance of state coastal zone management programs in the United States. *Coastal Management* 24(2): 141-163

² Kay R and Alder J. 2005. *Coastal Planning and Management*. New York: Taylor & Francis

<ul style="list-style-type: none"> • Encourages and fosters relationship building. 	<p>of individuals, rather than departments and agencies. Individual positions may not reflect departmental positions.</p> <ul style="list-style-type: none"> • Less likely to result in real on-the-ground changes. • Does not address relative power balances between departments. Power balances and higher-order government priorities will prevail. • Does not address conflicting departmental mandates. • Does little to streamline governance processes. • Easier to “drop” by subsequent governments when coastal management/coordination is not a legislative requirement.
Legislative Approach	
Advantages	Disadvantages
<ul style="list-style-type: none"> • More accountability. • Roles and responsibilities are clearer. • Could be used to set performance targets and desired outcomes. • More likely to result in real on-the-ground changes. • Could provide coherence and direction to existing laws as well as address gaps in existing legislation. • Could result in greater public buy-in and support for coastal management. • Could make coordination between various departments a legal requirement. 	<ul style="list-style-type: none"> • Requires substantial resources and political capital to develop, implement, and enforce. • Effective cooperation and collaboration cannot be legislated. Departments and agencies that stand to lose power and influence may not cooperate. • Could create confusion and actually undermine/hamper existing coordination. • Developing new legislation is costly and time consuming. • Creates another layer of bureaucracy.

- The working group did not agree on which of the two approaches is best suited for Nova Scotia. Some participants recommended the networked approach, and some recommended the legislative approach. A number of working group members stated that the two approaches are not mutually exclusive and that it is not an either/or choice - both approaches are needed for effective coastal governance.
- It was recognized that the networked approach to coastal management is already being used in Nova Scotia (e.g., PON, RCCOM). Some members of the working group thought that the networked approach has not been effective to date (e.g., Coastal 2000), while others thought that it had been reasonably effective and should be further enhanced.

- In its present form, the networked approach lacks an overarching framework as well as incentives for cooperation. Legislation could help to formalize the networked approach and ensure responsibility and accountability.
- Development permitting and approval decisions need to be networked because individual government agencies are too narrowly focused on their mandate.
- Creating a lead agency for coastal management could help ensure the networked approach is efficient and effective. New legislation could strengthen and complement the networked approach.
- Improved coordination and collaboration between governments, departments and stakeholders can start right away, without legislation.
- New legislation could serve a variety of different purposes and functions. The purpose of new legislation must be clear.
- The working group identified the following potential purposes of new legislation for coastal management:
 - clarify roles and responsibilities for coastal management in Nova Scotia
 - establish goals and objectives for coastal management and provide a clear statement of principles
 - initiate integrated coastal management pilot projects/partnerships with communities and municipalities
 - establish advisory bodies to advise the Government of Nova Scotia on implementation of the Coastal Strategy
 - establish a formal role for communities in coastal development decision-making
- New legislation could be broad (e.g., enabling legislation) or it could have a more specific purpose (e.g., establishing coastal development regulations). Broad legislation can support more focused legislation. Enabling legislation could help to set goals and objectives for planning, zoning, and managing coastal development as well as establish a process and framework for networking among different levels of government, departments and stakeholders.
 - There is an opportunity to learn from past experiences with enabling legislation (e.g., Canada's *Oceans Act*).
- Another potential approach to new legislation is to outline specific outcomes and responsible agencies for coastal management in legislation and a supporting governance process will emerge. This approach is similar to the one used in Nova Scotia's *Environmental Goals and Sustainable Prosperity Act* (EGSPA).
- It was suggested that a legislative/regulatory/policy gap analysis be completed before putting forward any new legislation. This analysis could be included as an additional action in the governance section of the Coastal Strategy. The results of the analysis would help the Government of Nova Scotia decide whether new legislation is needed and what its purpose might be. Options for addressing gaps include creating new policies and/or legislation, and

revising existing legislation and regulations to help achieve the goal and objectives of the Strategy. Legislative gap analyses for coastal governance are currently being conducted as part of the Northumberland Strait Ecosystem Initiative (NESI) and by the East Coast Environmental Law Institute (ECELAW).

- New legislation could incorporate and/or reference relevant sections of existing provincial legislation to address gaps, ensure consistency, and provide an overall coherence to the coastal governance system.
- The Government of Nova Scotia would need to ensure that it has the capacity to implement and enforce new legislation. There a number of existing laws and regulations that haven't been used to their potential and could be made more effective.
- Several members of the working group stated that the legislative approach is not realistic due to the time and resources required to develop and implement new legislation.
- Legislation could help ensure that the Coastal Strategy's actions are not implemented with a narrow focus on the lead department's mandate.
- While there may be short-term costs associated with developing and implementing new legislation, the networked approach may be more costly in the long-term if it fails to address the priority coastal issues.
- Some existing laws and regulations are not being enforced consistently. Ensuring greater awareness and better application of existing laws, regulations, and land use bylaws would be a huge step forward for coastal management.

3.3 Creating a Lead Body for Coastal Management

- A number of working group members suggested introducing an executive level inter-ministerial council or steering/coordinating committee to lead coastal management in Nova Scotia. The council/committee should:
 - be comprised of Deputy Ministers (DMs) or Assistance Deputy Ministers (ADMs);
 - have authority over the sectoral departments/agencies;
 - meet regularly; and
 - coordinate implementation of the Coastal Strategy between member departments and agencies.
- A number of working group members suggested that the governance structure include a coastal secretariat. The secretariat should:
 - build upon the existing PON Secretariat;
 - be housed within an existing government department/agency;
 - have operational capacity;
 - provide support to the inter-ministerial council or steering/coordinating committee described above;
 - be responsible for inter-departmental and inter-government coordination of the Coastal Strategy; and

- be responsible for guiding and monitoring the implementation of the Coastal Strategy.
- A number of working group members suggested that the existing PON structure could be enhanced and modified to serve as the lead body for coastal management. Some of the changes to structure and function suggested include:
 - shifting focus and capacity from development of the Coastal Strategy to implementation;
 - including senior level staff (e.g., ADMs, Executive Directors, Directors) as members to provide leadership and accountability and to drive implementation of the Strategy;
 - identifying a DM to carry the Strategy; and
 - identifying leads for the Strategy’s various action areas (e.g., establish development standards);
- Task groups, working groups, and technical groups were also suggested as part of the governance structure.
- The working group identified a number of government departments that could serve as a ‘home’ for the coastal secretariat as well as some of the pros and cons associated with each option (see Table 2 below).

Table 2. Pros and cons associated with some government departments that could serve as a ‘home’ for the coastal secretariat.

Department	Pros	Cons
Environment	<ul style="list-style-type: none"> • Operational capacity 	<ul style="list-style-type: none"> • Perceived bias against economic development aspects of coastal management • Coastal file might not be a priority
Fisheries and Aquaculture	<ul style="list-style-type: none"> • Current home of the PON Secretariat • Operational capacity 	<ul style="list-style-type: none"> • Lacks influence of some other departments • Potential conflict of interest regarding finfish aquaculture issues
Intergovernmental Affairs	<ul style="list-style-type: none"> • Strong linkages with other departments and levels of government 	<ul style="list-style-type: none"> • Lacks operational capacity and experience
Natural Resources	<ul style="list-style-type: none"> • Experience balancing between mandates for sustainable economic development (e.g., forestry, mining) and conservation and protection (e.g., Beaches Act) • Regional operations and field staff throughout the Province • Influential department 	<ul style="list-style-type: none"> • Coastal file might not be a priority

- The working group identified a number of potential roles and responsibilities for the lead body for coastal management. The following were suggested as potential roles and responsibilities of the lead body for coastal management:
 - reports back to the public on progress towards goals and objectives;
 - leads and directs further development of the Coastal Strategy;
 - administers a fund for coastal management pilot projects;
 - leads and monitors the outcomes and implementation of the Coastal Strategy;
 - collaborates with other levels of government on issues related to coastal and ocean management;
 - represents the Government of Nova Scotia on inter-governmental committees and groups;
 - represents the Government of Nova Scotia on all issues related to coastal management;
 - provides support to the lead Minister(s);
 - ensures research priorities and information needs are addressed in departmental agendas and work plans;
 - establishes and administers a stakeholder advisory committee;
 - develops and implements education and awareness initiatives on coastal management;
 - oversees the establishment and enforcement of province-wide coastal development standards;
 - resolves conflicts between and among governments, departments and stakeholder groups;
 - works closely with municipalities and provincial/local/multi-stakeholder advisory body(s) on the implementation of the Coastal Strategy;
 - reviews existing legislation and policies related to coastal management and drafts new coastal legislation and policies;
 - disseminates information to all relevant partners;
 - facilitates and coordinates integration and collaboration among departments, governments, stakeholders;
- Some of the lessons learned from DFO's implementation of the *Oceans Act* and subsequent strategy demonstrate the need for focused leadership to guide implementation while maintaining focus on the goals, objectives and desired outcomes.
- A number of working group members did not support the creation of a new department or agency in the short-term. As the coastal secretariat evolves over time, it may become advantageous to transition the secretariat into a new department (similar to the evolution of the Nova Scotia Department of Seniors).
- Once lead departments are identified for each action, there is potential for these departments to implement the actions with a narrow departmental focus. This will be an important challenge to implementing the Coastal Strategy.

3.4 Ongoing and Consistent Ways to Engage Nova Scotians

- This action should be more specific and outline the purpose and desired outcomes of engaging Nova Scotians.
- There is a need for both formal (e.g., citizens' advisory group) and informal engagement mechanisms.
- Public education campaigns about coastal issues were suggested as an important component of this action. It was suggested that for these education campaigns to be successful, the Government of Nova Scotia must “practice what you preach” and ensure that the message is backed by consistent laws and policies.
- It was suggested that supporting and collaborating with community-based organizations engaged in coastal monitoring and stewardship activities would be an effective means of engaging Nova Scotians in the implementation of the Coastal Strategy. These groups could work at the most local level to achieve the Strategy's goals and objectives, but in a balance that reflects area-specific needs and opportunities.
 - A ‘Coastal Council’ comprised of representatives from the four orders of government and these locally-based organizations could be established. Together, these organizations could develop shared goals and objectives and pursue them at their own level.
 - The Government of Nova Scotia should also recognize the credibility of data and information gathered by these groups and encourage its use in decision-making.
 - Nova Scotia's solid waste management program is a good example of actively engaging Nova Scotians and providing them with an opportunity to participate in government initiatives.
- Some members of the working group thought that ongoing consultations throughout the Province, similar to those used in the preparation of the draft Coastal Strategy, would be an effective means of engaging Nova Scotians.
- More community involvement and engagement in local planning processes could help reduce conflicts and result in more sustainable development in the long-term.
- This action should somehow bring the laws, policies and actions of governments down to the local level because it is the local residents and community that are ultimately affected by development decisions.
 - The Southwest New Brunswick Marine Resources Planning Initiative is likely the region's best example of an attempt to meet this challenge [<http://bofmrp.ca/home/>].
- A key issue with the current governance system is that coastal residents and stakeholders are often not aware of development proposals that could affect their local area or they are not given sufficient notice/opportunity to respond. Government is often not represented at meetings about these proposals and the proponents are not always honest about the development projects.

- People are often not interested or engaged in planning until implementation phase. For example, there has been low participation and interest in some municipal planning initiatives regarding wind power development despite the fact that such developments are often controversial when sited near residential areas.
- The Government of Nova Scotia must ensure it has the capacity to respond to the concerns of citizens and be willing to allow citizens to be involved in decision-making processes.
- The Mi'kmaq are being over-engaged on numerous government initiatives. Although they wish to participate in these initiatives, they are suffering from information overload and a lack of capacity. Ultimately, they want to see the various government initiatives deliver tangible results that protect Mi'kmaq communities.
- Coastal residents and communities want a legitimate place at the decision-making table where they can present their point of view and be heard.
- It was recognized that some of the issues and concerns over coastal governance are the result of broader governance issues (e.g., provincial land-use planning) that are beyond the scope of the Coastal Strategy.

Comments and advice related to the creation of a citizens' advisory group:

- Advisory groups can fulfill two different functions: coastal planning and permitting. For example, the Eastern Scotian Shelf Integrated Management Stakeholder Advisory Committee (ESSIM-SAC) advised on planning for ocean uses and activities, not permitting. It is important that prospective advisory group members have a clear understanding of what they are signing up for. Sometimes there is a mismatch between their expectations and reality.
- The experience and lessons learned from the ESSIM-SAC could provide some guidance to the Government of Nova Scotia on refining this action.
- It is difficult to ensure that all views are represented by the advisory group. To ensure accountability, members of an advisory group should have a constituency to report to and receive guidance from.
- The Minister's Roundtable on the Environment and Sustainable Prosperity and the Nova Scotia Water Advisory Group (NSWAG) were suggested as possible models for a citizens' advisory group on coastal management.
- An advisory group can help stakeholders see each others' points of view and strive for common solutions; and members can communicate with their constituencies.
- Existing processes for public input should not be duplicated by an advisory body.
- Working group members suggested three different models for a citizens' advisory group, each with different structure and function:
 - 1. Citizens' advisory group:** This group would be comprised of representatives from the general public. Its roles would be to advise the Government of Nova Scotia on the implementation of the Coastal Strategy, monitor progress, reduce conflict, and improve long-term coastal planning.

2. Local advisory boards: A number of local advisory boards would be established throughout the Province. These boards would be comprised of representatives from all levels of government, stakeholder groups, and the local community. Their role would be to bring all levels of government together at the local level and allow the local community an opportunity to provide input on coastal development issues and permits. It was suggested that these boards be established in a step-wise fashion beginning with pilot projects.

3. Multi-stakeholder advisory board: This board would be comprised of representatives from key stakeholder groups. Its purpose would be to provide advice to the Government of Nova Scotia on the implementation of the Coastal Strategy's specific actions (e.g., coastal development standards) and/or specific coastal issues.

- The St. Margaret's Bay Stewardship Association (SMBSA) is in the process of establishing a coastal development advisory board.
 - Everyone within the St. Margaret's Bay coastal zone (has been defined) could be involved.
 - A congress of all chartered NGOs under the Societies Act would nominate and select five people to serve a term on the Board.
 - The Board would review all development applications in the coastal zone and offer advice to all levels of government.
 - This advisory board would work with the lead body for coastal management.
 - There is support from Halifax Regional Municipality for this initiative. Support from the Municipality of the District of Chester is also needed, since different parts of the bay fall under the jurisdiction these two municipalities.
 - It was suggested that the SMBSA coastal development advisory board initiative be designated as an official governance pilot project under the Coastal Strategy. The Government of Nova Scotia would not coordinate the pilot project, but participate at the table.

3.5 Governance-Related Comments from the Other Working Groups

- There are many existing local, provincial and regional level coastal initiatives relevant to the various actions in the Coastal Strategy. Therefore, a number of actions could be implemented through improved coordination of these coastal initiatives.
- Some actions can be implemented directly by the Government of Nova Scotia; others will require substantial collaboration with various levels of government and stakeholders.
- Some of the key roles that the Government of Nova Scotia should play in coastal management include leadership, facilitation, coordination, and capacity building.
- Increased information sharing, communication, and cooperation between governments, departments, and stakeholders are required to implement many of the actions.

- Private coastal landowners are a key stakeholder group in the implementation of the Coastal Strategy.
- Increased education and awareness about coastal issues can help address all of the Government of Nova Scotia's priority coastal issues and is essential to the success of the Coastal Strategy.
- Coastal management and decision-making processes must have a strong scientific underpinning.
- The coastal water quality working group suggested establishing a collaborative governance body to support implementation of the Coastal Strategy. A collaborative governance body may be helpful due to the many government departments and wide range of stakeholders who will need to be involved in addressing this issue. The Government of Nova Scotia could establish a Coastal Advisory Group, similar to Water Advisory Group established under the Water Strategy.
- Some members of the coastal development working group stated that there is a need to improve networking between research/academic institutions and government agencies. This could be accomplished by holding multi-disciplinary workshops focusing on specific issues or scenarios that promote a more holistic understanding of coastal issues.

3.6 Information Needs and Knowledge Gaps

- Analyses of the structure and function of the coastal governance systems used in other jurisdictions and the key factors that influence the performance of these governance systems.
- Data and information about the environmental and socio-economic impacts of human activities in the coastal zone.
- The roles and responsibilities of government departments and agencies in coastal management.
- Loopholes in existing laws and regulations that allow for unsustainable coastal development.
- Overlapping laws and regulations that result in management and regulatory inefficiencies.
- Issues and legal obligations related to First Nations and Aboriginal Peoples organizations with respect to creating collaborative governance structures.

4. Coastal Development

Feedback and advice on the draft Coastal Strategy provided by the coastal development working group is summarized below. Section 4.1 summarizes the working group's comments and advice on the goal and objectives for this issue. Section 4.2 summarizes the working group's comments on each of the proposed actions for addressing coastal development including implementation advice, challenges and opportunities. Section 4.3 summarizes the information needs and knowledge gaps related to coastal development in Nova Scotia identified by the working groups.

It is important to note that the intent of this report is to capture the range of perspectives on the draft Coastal Strategy put forward by the working group members. Therefore, the working groups did not necessarily reach consensus on the statements included in this report. Instances where there was consensus or broad disagreement among working group members regarding a particular point are noted in the report.

4.1 Goal and Objectives

- Feedback from the working group suggests that, in general, the goal and objectives set the right direction for addressing the coastal development issue.

Comments on the goal 'Coastal development that accommodates natural coastal processes':

- The term "natural processes" is ambiguous and should be defined.
- Some working group members were not clear about what is meant by the term "accommodates". There was concern that the goal could be interpreted as meaning either: (1) coastal development should accommodate natural processes, or (2) natural processes should accommodate coastal development. It was suggested that the Strategy should provide some clarification by either revising the wording of the goal or providing some descriptive text which explains the intended meaning. "Maintains and restores" and "respects and accommodates" were suggested as possible alternatives to "accommodates".
- Some working group members thought the goal was appropriate, while others were not comfortable with the phrase "accommodates natural coastal processes" because it implies a negative connotation towards natural coastal processes.

Comments on the objective 'Build and maintain buildings and infrastructure in locations and in ways that minimize impacts to and from the natural coastline':

- The objective implies that the Coastal Strategy is focused on addressing only future development. It was suggested that if the Strategy is intended to address past and present development as well, then this objective may need to be revised, a new objective added, and/or some descriptive text added which provides some clarification. The Coastal Strategy should recognize that different strategies and actions may be needed to address existing development and future development.

- The objective could be interpreted to mean that the Coastal Strategy is focused on defending existing coastal development via shoreline armouring. The working group recognized that shoreline armouring may be appropriate in some situations, but it was suggested that this approach is not ideal in many situations and other options such as retreat from the shoreline may be more appropriate. The Strategy should explain the full range of options for addressing past and present development that is threatened by coastal hazards and clarify that shoreline armouring is not the preferred option in many situations. Including some criteria for evaluating the various options would also be useful.

Comments on the objective ‘Manage provincially-regulated activities to minimize impacts to and from the coast’:

- In addition to provincially-regulated activities, many activities carried out by the Government of Nova Scotia impact, or are impacted by, coastal processes. The Government of Nova Scotia should expand the scope of this objective to include these provincial activities as well (e.g., “Manage provincial and provincially-regulated activities to minimize impacts to and from the coast”).
- Many federal and federally-regulated activities impact, or are impacted by, coastal processes. Certain federal crown corporations are subdividing land for residential development in the Province and claim to be exempt from land-use regulations. The Government of Nova Scotia should consider expanding the scope of this objective to include federal and federally-regulated activities. The Government of Nova Scotia would need to work collaboratively with the federal government to achieve this objective.
- The scope of the objective should be expanded to include all activities carried out in the coastal zone that impact or are impacted by coastal processes, regardless of who is responsible for the particular activity.

General comments on the preamble, goal and objectives:

- Some coastal areas may be unsuitable for development for a variety of reasons (e.g., highly vulnerable to coastal hazards, presence of ecologically-sensitive or significant features). The need to keep development away from these areas is not adequately captured in the two objectives and it was suggested a third objective should explicitly address this concern.

4.2 Actions

- All actions were identified as important for addressing the issue of coastal development.
- The following were identified as the highest priority actions for implementation:
 - Establish coastal development standards
 - Partner with municipalities to establish planning strategies and land-use by-laws in coastal areas

4.2.1 Establish coastal development standards³

Implementation advice:

- The Coastal Strategy should be open to a wide range of options for establishing coastal development standards. Some specific options that were mentioned include:
 - a Statement of Provincial Interest under the *Municipal Government Act*
 - stand-alone provincial legislation
- Stand-alone provincial legislation may be a faster means of establishing coastal development standards than a Statement of Provincial Interest under the *Municipal Government Act*.
- Stand-alone provincial legislation, in addition to a Statement of Provincial Interest, would ensure consistent minimum development standards are in place throughout the Province, even in municipalities without municipal planning strategies (MPSs) or land-use by-laws (LUBs).
- The coastal development standards may need to be designed to reflect the great diversity of shore types along the Province's coastline (e.g., urban vs. rural, artificial vs. natural shores, macro-tidal vs. micro-tidal, exposed vs. sheltered, highly erosive vs. resistant shores, etc.) as well as the type of development (e.g., residential vs. marine-dependent).
- Implementation of the coastal development standards could follow a step-wise process: establish minimum provincial standards first, and then tailor these standards to different shore types as new information and resources become available.
- Setbacks, riparian buffers, and minimum building elevations were identified as examples of effective coastal development standards. Additional standards may be needed to provide adequate protection to natural features such as wetlands.
- Coastal development standards should somehow address the issue of 'coastal squeeze' - development that prevents salt marshes and other features and habitats from migrating landward with sea-level rise.
- Coastal development standards should accommodate marine-dependent development where appropriate (e.g., wharves).
- The Government of Nova Scotia should increase education and awareness among municipalities and private landowners about the benefits of coastal development standards and the costs and dangers of uncontrolled coastal development.
- Coastal development standards should be based on the best available and up-to-date scientific information about coastal processes and shoreline change.

³ The draft Coastal Strategy lists this action under a number of the priority coastal issues. See the following sections for additional comments and advice regarding this action:

- Sea-level rise and storm events – pages 29-30
- Coastal ecosystems and habitats – page 39
- Coastal water quality – pages 53-54

- New development could be threatened by coastal hazards in the medium to long-term if development standards (e.g., setback distances) are inadequate. Therefore, coastal development standards should be precautionary.
- Management strategies/actions should be assessed on an ongoing or a five-year to decadal time frame to monitor their effects and implications.

Implementation challenges:

- Private landowners in rural municipalities that currently have limited land-use regulations or no regulations at all may resist coastal development standards.
- Establishing coastal development standards through MPSs and/or LUBs could result in vastly different standards throughout the Province and take as long as 10-20 years to establish in some municipalities.
- Municipalities may choose not to establish coastal development standards because they are concerned about being liable for property damage and human safety should the standards fail to provide adequate protection from coastal hazards.
- Assessing the long-term implications of proposed management strategies/actions (e.g., the long-term impacts of active and abandoned wharves on sediment transport, or beach sediment extraction on shoreline stability).
- There is a lack of capacity in some municipalities to implement and enforce coastal development standards.
- There is a lack of scientific information about shoreline change and up-to-date mapping to support development standards in some areas of the Province.
- Addressing existing development that does not meet new development standards.
- Consistent interpretation and application of coastal development standards to both existing and future development.

Implementation opportunities:

- Some municipalities have already established coastal development standards in their jurisdiction, while others would likely welcome provincial assistance in establishing new development standards.
- The *Bras d'Or Lakes Development Standards* could provide some guidance [<http://brasdorcepi.ca/projects/land-use/>].
- Although there is a lack of scientific information about coastal processes and shoreline change in some areas of the Province, there is enough information available to establish minimum provincial standards for coastal development.

4.2.2 Partner with municipalities to establish planning strategies and land-use by-laws in coastal areas⁴

Comments and advice regarding the direction of the action:

- It is not clear what the term ‘partner’ means. The nature of this partnership should be described in more detail in the Coastal Strategy.

Implementation advice:

- The Government of Nova Scotia will need to provide resources and capacity to some municipalities in order to establish MPSs and LUBs. It was suggested that the provincial government could offer support from provincial planning staff to assist municipalities, provide funding for municipalities to hire consultants, provide funding for scientific research to support MPSs and LUBs, and/or prepare a model MPS and LUB for coastal areas.

Implementation challenges:

- Private landowners in rural municipalities that currently have limited land-use regulations or no regulations at all may resist new LUBs.
- It may take as long as 10-20 years to establish MPSs and LUBs in municipalities that do not currently have them.
- Some municipalities lack the capacity to develop, implement and enforce MPSs and LUBs.
- Process of developing MPSs and LUBs is costly and time consuming.

4.2.3 Incorporate up-to-date knowledge about coastal processes in provincial policies

Comments and advice regarding the direction of the action:

- The Coastal Strategy should provide examples of specific policies and/or specify the types of policies to which this action will apply. Transportation, tourism, parks, agriculture, forestry and aquaculture were identified as some important provincially managed activities that can have a direct impact on coastal processes.
- Provincially-funded projects and activities should also be required to incorporate up-to-date knowledge about coastal processes.
- The Government of Nova Scotia should work with the federal government to ensure federal policies and federally-funded projects and activities also incorporate up-to-date knowledge about coastal processes. Certain federal crown corporations are subdividing land for residential development in the Province and are not incorporating knowledge about coastal processes.

⁴ The draft Coastal Strategy lists this action under a number of the priority coastal issues. See the following sections for additional comments and advice regarding this action:

- Sea-level rise and storm events – page 31

- A process for identifying and updating relevant information in provincial policies will need to be developed.

Implementation advice:

- The Province's coast has a variety of different shore types and each type influences and is influenced by coastal processes differently. The quantity and quality of information available about each of these shore type varies. There is little to no information about some shore types, while other shore types have been studied extensively and are relatively well understood.
- The Government of Nova Scotia could consider setting performance standards to implement this action. For example, there could be a requirement that all new roads be built in areas where they will be safe from coastal flooding and erosion for their expected lifetime.

Implementation challenges:

- Up-to-date knowledge of coastal processes and shoreline change is not available for some coastal areas/shore types in the Province.

4.2.4 Increase awareness and knowledge about coastal landscapes, processes, and resources

Comments and advice regarding the direction of the action:

- The Coastal Strategy should identify the intended targets of this information.

Implementation advice:

- The Government of Nova Scotia should highlight success stories from around the Province and highlight the potential savings in terms of reduced maintenance and repair costs over time.
- Education should include information about alternatives to shoreline armouring such as retreat and soft/hybrid protection measures.
- This action will not be successful until knowledge about coastal landscapes, processes, and resources is incorporated into government decisions, activities, and regulations regarding coastal development. In other words, government must lead by example.

Implementation opportunities:

- Public demand for this information is high, especially for information about coastal erosion and flooding.
- Non-governmental organizations could help the Government of Nova Scotia to spread awareness and knowledge.

4.2.5 Additional actions

It was suggested that the Government of Nova Scotia consider adding the following actions to the Coastal Strategy to address the coastal development issue:

- ***Identify areas that are not suitable for development and find ways to prevent them from being developed.*** Some coastal areas may be unsuitable for development for a variety of reasons (e.g., highly vulnerable to coastal hazards, presence of ecologically-sensitive or significant features) and the Government of Nova Scotia should find ways to prevent development in these areas.
- ***Develop standards and regulations for shoreline armouring.*** Hard protection structures (e.g., seawalls, riprap) have the potential to impact coastal processes. Standards and regulations should be established to reduce or eliminate these impacts.
- ***Identify and close loopholes in coastal development regulations and permitting processes.*** There are a number of loopholes in existing development regulations and permitting processes that allow coastal development to be situated in inappropriate areas. These loopholes should be closed.
- ***Identify ways to address problems with existing coastal development.*** The draft Coastal Strategy seems focused on future development and should include specific actions for addressing problems with existing coastal development.
- ***Improve networking through multi-disciplinary workshops.*** There is a need to improve networking between research/academic institutions and government agencies. This could be accomplished by holding multi-disciplinary workshops focusing on specific issues or scenarios that promote a more holistic understanding of coastal issues.

4.3 Information Needs and Knowledge Gaps

The following were identified as priority research and information needs to address the issue of coastal development:

- The long-term impacts of active and abandoned infrastructure (e.g., wharves) on sediment transport (impacts can exist for decades to centuries) or beach sediment extraction on shoreline stability.
- Light Detection and Ranging (LiDAR) data for the entire coastline (~2-5 km wide strip) of the Province. Acquisition of new LiDAR data could be prioritized according to known information about the vulnerability of different coastal areas to coastal hazards.
- Data about the physical characteristics of coastal areas; nearshore hydrography and sediment transport; coastal processes; past, present and future erosion rates, flood levels, and rates of sea-level rise and subsidence.
- Up-to-date provincial maps.
- Coastal hazard vulnerability assessments and maps for the Province.
- Sea-level rise, storm surge, and flood modeling.

Coastal Development

- Data and information about coastal development and other human activities in the coastal zone such as shoreline armouring.
- Effects of development and hard/soft protection structures on natural coastal processes.

5. Sea-Level Rise and Storm Events

Feedback and advice on the draft Coastal Strategy provided by the sea-level rise and storm events working group is summarized below. Section 5.1 summarizes the working group's comments and advice on the goal and objectives for this issue. Section 5.2 summarizes the working group's comments on each of the proposed actions for addressing sea-level rise and storm events including implementation advice, challenges and opportunities. Section 5.3 summarizes the information needs and knowledge gaps related to sea-level rise and storm events in Nova Scotia identified by the working groups.

It is important to note that the intent of this report is to capture the range of perspectives on the draft Coastal Strategy put forward by the working group members. Therefore, the working groups did not necessarily reach consensus on the statements included in this report. Instances where there was consensus or broad disagreement among working group members regarding a particular point are noted in the report.

5.1 Goal and Objectives

- Feedback from the working group suggests that, in general, the goal and objectives set the right direction for addressing the sea-level rise and storm events issue.

Comments on the goal 'People and property are safe from coastal hazards':

- Although desirable, the goal will not be achievable in all situations. "Reduce the impacts to people and property from coastal hazards" was suggested as a possible alternative.

Comments on the objective 'Buildings and infrastructure should be located, built and maintained in a manner that minimizes impacts from rising sea levels and storms':

- The intent of the objective is not clear. The objective and descriptive text imply that the Coastal Strategy is focused primarily on defending buildings and infrastructure from coastal hazards. There was recognition that protection (i.e. shoreline armouring) may be appropriate in some situations (e.g., to protect dykelands, cultural resources), but it was suggested that this approach is not ideal in many situations and other options such as retreat from the shoreline may be more appropriate. The Strategy should explain the full range of options for addressing past and present development that is threatened by coastal hazards and clarify that shoreline armouring is not the preferred option in many situations.
- "Buildings and infrastructure will not be built, located and maintained in a manner that increases the risk of impacts from coastal hazards" was suggested as an alternative because the intent of the objective is easier to understand. It was noted that the suggested phrasing would make it easier to measure performance of the objective. It was also noted that, where appropriate, an exception would have to be made for marine-dependent uses.

Comments on the objective ‘Prepare communities for storm-related emergencies’:

- Emergencies are a point in time and there are many activities that communities can do day-to-day to prepare for coastal hazards. It was suggested the objective be changed to “Prepare communities for coastal hazards and the realities of living in the coastal zone”. The suggested phrasing promotes a more proactive approach to addressing coastal hazards, which also includes emergency events.
- The descriptive text should mention the likely changes in the impacts of coastal hazards due to climate change, sea-level rise, and development practices.

General comments on the preamble, goal and objectives:

- It was suggested that the name of this issue should be changed to “Sea-Level Rise and Coastal Hazards” because storm events are only one type of coastal hazard. The term ‘coastal hazard’ is more inclusive (e.g., storm events, ice pressure events, tsunamis, erosion, etc.).
- There are many strong linkages and complementarities between the sea-level rise and storm events and coastal development sections. Some working group members found that they needed to read the two sections together to understand the overall approach of the Coastal Strategy for addressing the threat of coastal hazards.
- A key distinction between the sea-level rise and storm events and coastal development sections is the acceleration of coastal processes (e.g., sea-level rise and erosion) due to climate change and its potential to increase impacts to coastal development.
- The Coastal Strategy focuses on the potential for coastal processes to impact coastal infrastructure. Through the preamble, a new objective, or the descriptive text, the Strategy should also recognize that coastal infrastructure can impede the ability of natural coastal processes and features to adapt to the impacts of coastal flooding and erosion. A key point is that natural coastal processes and features need to be given room to change and adapt. It was suggested that text could be borrowed from the coastal development section to communicate this message.
- Some working group members were not comfortable with the way coastal processes are framed in the Coastal Strategy. While coastal processes can pose a threat to people and property, it is the Province’s development practices that put people and property at risk. The Strategy’s message should be that we need to do a better job of working with nature rather than against it and we need to give the coast space to adjust to the intensification of coastal processes.
- It was suggested that a third objective be added to provide guidance on the appropriate use of coastal protection measures (soft, hard, hybrid).

5.2 Actions

- All actions were identified as important for addressing the sea-level rise and storm events issue.

- The following were identified as the highest priority actions for implementation:
 - Assess the vulnerability of communities to coastal hazards
 - Establishing coastal development standards
 - Educate property owners and the development community about how to minimize risks from coastal hazards

5.2.1 Assess the vulnerability of communities to coastal hazards

Comments and advice regarding the direction of the action:

- This action is a prerequisite for many of the other actions.
- This action may be more appropriate as an objective.

Implementation advice:

- Vulnerability should be assessed separately for different coastal hazards (e.g., flooding, erosion, wind, sea ice, etc.).
- Assessing vulnerability requires data on erosion rates and flood levels; buildings, infrastructure, cultural and ecological assets; economic and demographic trends; analyses of management systems, policies and legislation; as well as modeling potential future scenarios based on different environmental and socio-economic conditions.
- Assessing vulnerability is an ongoing process and assessments need to be updated regularly to reflect changes in environmental and socio-economic conditions and forecasts.
- Coastal flooding during storm events can result from both storm surge as well as the influx of freshwater sources over land.
- Develop a LiDAR acquisition plan for the Province that prioritizes areas for new LiDAR coverage and identifies potential opportunities for acquiring new data.

Implementation challenges:

- Lack of information to accurately assess vulnerability to coastal hazards in many areas of the Province.
- Past rates of erosion and sea-level rise are not necessarily good indicators of future rates.
- Accurately assessing vulnerability to coastal hazards can be costly and time consuming.
- LiDAR data can substantially increase the accuracy of vulnerability assessments, but LiDAR coverage is incomplete or not available for many coastal areas of the Province and is expensive to obtain.
- There is a lack of capacity and resources for municipalities and communities to assess vulnerability.
- The limited number of tide gauges in the Province (Halifax, Yarmouth & Sydney) makes it difficult to accurately measure the high water level during flood events.

Implementation opportunities:

- Although LiDAR data are incomplete or not available for many coastal areas of the Province, there are enough data to take action to protect people and property from coastal hazards. For example, Halifax Regional Municipality adopted interim setbacks and minimum building elevations in policy before data were available.
- Elevation data collected during ground surveys using traditional GPS are sufficient in the interim until LiDAR data are available.
- The process of assessing the vulnerability of the Province's coastline could be prioritized by using information about past hazard events, population and infrastructure to target areas suspected of being highly vulnerable to coastal hazards first.
- Local residents and municipalities can be a valuable source of information for the vulnerability assessments.
- The insurance industry could use this information to persuade developers not to build in areas vulnerable to coastal hazards.
- A variety of organizations could provide data, support and expertise (e.g., Applied Geomatics Research Group, Geological Survey of Canada).
- Emergency managers will be able to use this information to assess where they may need to focus their resources.
- Historical air photos of the coastline could be used to provide a rough estimate of past erosion.

5.2.2 Establish coastal development standards⁵

Implementation advice:

- The Government of Nova Scotia should be open to a wide range of options for establishing coastal development standards. Some specific options that were mentioned include:
 - a Statement of Provincial Interest under the *Municipal Government Act*
 - stand-alone provincial legislation
- Stand-alone provincial legislation may be a faster means of establishing coastal development standards than a Statement of Provincial Interest under the *Municipal Government Act*.
- Stand-alone provincial legislation, in addition to a Statement of Provincial Interest, would ensure consistent minimum development standards are in place throughout the Province, even in municipalities without MPSs or LUBs.

⁵ The draft Coastal Strategy lists this action under a number of the priority coastal issues. See the following sections for additional comments and advice regarding this action:

- Coastal development – pages 20-21
- Coastal ecosystems and habitats – page 39
- Coastal water quality – pages 53-54

Sea-Level Rise and Storm Events

- The Government of Nova Scotia should consider making changes to the provincial building code using the U.S. Federal Emergency Management Agency's (FEMA) Coastal Construction Manual as a guide:
[\[http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=167\]](http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=167).
- Setbacks (horizontal and vertical), buffers, and minimum building elevations are examples of effective coastal development standards for addressing coastal hazards.
- Setbacks for erosion (horizontal) and flooding (vertical) should be separated and based on different criteria.
- New development could be threatened by coastal hazards in the medium to long-term if development standards (e.g., setback distances) are inadequate. Therefore, coastal development standards should be precautionary. Rolling setbacks should be established to address accelerated rates of shoreline change.
- New buildings and infrastructure should be required to be built in areas where they will be reasonably safe from coastal hazards for their expected lifetime. For example, a house or road that has a life expectancy of 50 years should not be built in the 50-year floodplain.
- Consistent development standards should be applied province-wide or the standards could be regionally adjusted to reflect substantial variability in coastal settings and rates of coastal change.
- Coastal development standards should somehow address the issue of 'coastal squeeze' - development that prevents salt marshes and other features and habitats from migrating landward with sea-level rise.

Implementation challenges:

- Setbacks and minimum building elevations are measured using Ordinary High Water Mark (OHWM). This is an outdated surveying technique and can result in inaccurate measurements. There are new and more accurate measurements methods (e.g., high-high mean tide).
- Politicians and private landowners may not be supportive of new development regulations.

Implementation opportunities:

- There are many economic benefits associated with having coastal development standards including substantial reductions in disaster assistance funding and infrastructure maintenance/repair costs. These benefits should be highlighted in the Coastal Strategy.

5.2.3 Partner with municipalities to establish planning strategies and land-use by-laws in coastal areas⁶

Comments and advice regarding the direction of the action:

- It is not clear what the term ‘partner’ means. The nature of this partnership should be described in more detail in the Coastal Strategy.

Implementation advice:

- The Government of Nova Scotia will need to provide resources and capacity to some municipalities in order to establish MPSs and LUBs. It was suggested that the provincial government could offer support from provincial planning staff to assist municipalities, provide funding for municipalities to hire consultants, provide funding for scientific research to support MPSs and LUBs, and/or prepare a model MPS and LUB for coastal areas.

Implementation challenges:

- In addition to MPSs, municipalities have recently been encouraged and/or required to prepare a growing number of plans. As a result, municipal capacity and resources are strained and they may be suffering from ‘plan fatigue’.
- Many municipalities do not recognize the significance of their coastline in their MPS.
- Municipalities do not currently have guidance on how to develop MPSs and LUBs for coastal areas.

Implementation opportunities:

- Some municipalities already have MPSs and LUBs and are planning for coastal hazards.

5.2.4 Implement policies so that provincial funding of coastal infrastructure takes into account coastal hazards

Implementation advice:

- Policies related to the construction and repair of provincial roads and other transportation infrastructure as well as provincial beach parks should be priorities for implementation of this action. Some coastal roads and park infrastructure in the Province have repeatedly been damaged and repaired following storm events.
- The Government of Nova Scotia could make a requirement that all requests for proposals (RFPs) take into account the potential impacts of coastal hazards on the project. The provincial government could provide the RFP template and supporting information to assist proponents in meeting this requirement.

⁶ The draft Coastal Strategy lists this action under a number of the priority coastal issues. See the following sections for additional comments and advice regarding this action:

- Coastal development – page 22

Implementation challenges:

- Although this action would result in substantial savings in maintenance and repair over the lifetime of buildings and infrastructure, it is often cheaper in the short-term to repeatedly repair damaged buildings and infrastructure.
- It seems that the Government of Nova Scotia and municipalities do not currently do much in the way of planning for infrastructure renewal.

5.2.5 Ensure that emergency management planning reflects the best available knowledge of coastal hazards

Implementation challenges:

- Emergency management response in the Province is largely reactive rather than proactive. The current focus of emergency management is response, not planning.
- Emergency Management Offices (EMOs) often do not have the knowledge and capacity to use risk and vulnerability assessments in emergency planning and response.

Implementation opportunities:

- The Meteorological Service of Canada (MSC) and provincial EMOs have forged a close relationship following a number of severe weather events in Nova Scotia in 2003 and 2004. The MSC has Weather Preparedness Meteorologists (WPMs) on staff to provide briefings and weather updates to EMOs in the days leading up to a severe weather event.
- Coastal residents have a great deal of local knowledge about the coast and their communities which can be harnessed for emergency management planning.

5.2.6 Educate property owners and the development community about how to minimize risks from coastal hazards

Implementation advice:

- Signs and online materials were suggested as potential mechanisms for implementing this action.

Implementation challenges:

- Changing human behaviour through education can take time.
- It is unlikely that developers and private landowners will voluntarily agree to development restrictions.
- Property owners and the development community are not well-defined groups which could make communicating this message a challenge.

Implementation opportunities:

- Field staff from the Department of Natural Resources could help deliver education materials to property owners.

- Use examples of past hazard events in the community to illustrate risks.

5.3 Information Needs and Knowledge Gaps

The following were identified as priority research and information needs to address the sea-level rise and storm events issue:

- LiDAR coverage for the Province's coastline would support the majority of actions proposed in the Coastal Strategy to address sea-level rise and storm events, as well as many of the other actions proposed for the other priority coastal issues.
- Rates of shoreline change, erosion and sea-level rise. Projections of the relative rate of sea-level rise need to be further refined.
- Coastal geomorphology and shoreline characteristics such as elevation, overtopping risk, materials, erosion risk.
- Regional models of future sea-level rise, storm climate and sea-ice conditions.
- Infrastructure renewal plans and schedules.
- Best practices for adapting to climate change in coastal areas.
- Data and indicators of social vulnerability at the local level.
- Reference flood levels for individual communities.
- Models for forecasting storm surge events.

6. Coastal Ecosystems and Habitats

Feedback and advice on the draft Coastal Strategy provided by the coastal ecosystems and habitats working group is summarized below. Section 6.1 summarizes the working group's comments and advice on the goal and objectives for this issue. Section 6.2 summarizes the working group's comments on each of the proposed actions for addressing coastal ecosystems and habitats including implementation advice, challenges and opportunities. Section 6.3 summarizes the information needs and knowledge gaps related to coastal ecosystems and habitats in Nova Scotia identified by the working groups.

It is worth noting here that there was a high degree of consensus and agreement among members of this working group over the draft Coastal Strategy. For example, members of the working group raised many of the same points about the coastal ecosystems and habitats section of the Strategy in their responses to the questionnaire.

It is important to note that the intent of this report is to capture the range of perspectives on the draft Coastal Strategy put forward by the working group members. Therefore, the working groups did not necessarily reach consensus on the statements included in this report. Instances where there was consensus or broad disagreement among working group members regarding a particular point are noted in the report.

6.1 Goal and Objectives

- Feedback from the working group suggests that the scope and direction of the goal and objectives need to be revised in order to ensure effective conservation of coastal ecosystems and habitats.

Comments on the goal 'Conserve sensitive coastal areas':

- The scope of the goal should be broadened. In addition to sensitive coastal areas, there is a need to conserve ecologically significant coastal areas, biodiversity, representative ecosystems, wildlife and species at risk. This need is not adequately conveyed in the draft Coastal Strategy.
- The term "coastal areas" does not reflect the need to conserve areas of biological or ecological significance. "Conserve **and protect** sensitive, **ecologically and biologically-significant** coastal areas" was suggested as an alternative goal statement because it is more aligned with broader federal and provincial departmental mandates related to conservation.

Comments on the objective 'Sustain natural coastal landscapes and processes, and prevent biodiversity loss':

- This objective is very broad and could be considered a goal. The objective implies that areas of high biodiversity will be conserved and therefore goes beyond the goal of conserving only 'sensitive' coastal areas.

Comments on the objective ‘Coordinate marine and land-based conservation efforts’:

- Federal and provincial departments with a mandate related to the conservation of coastal ecosystems and habitats are interested in the conservation of ecologically-significant and representative areas as well as sensitive areas. The Coastal Strategy should be consistent with their mandates and the goals and objectives of their programs.

General comments on the preamble, goal and objectives:

- There was consensus among working group members that the need to conserve ecologically-significant coastal areas, biodiversity, wildlife and species at risk should be reflected in the objectives. It was suggested that existing objectives could be revised or a new objective added to address this concern.
- It is essential that the Coastal Strategy define the spatial extent of the coastal zone. Defining the coastal zone is commonplace in coastal management strategies and plans. It was suggested that this could be resolved by including a few sentences at the beginning of the Strategy explaining that the extent of the coastal zone is different for each of the priority coastal issues.
- The working group suggested that the Government of Nova Scotia revisit the hierarchy of the goal, objectives and actions for this issue.
 - The objectives “Sustain natural coastal landscapes and processes, and prevent biodiversity loss” and “Coordinate marine and land-based conservation efforts” are more high-level than the goal. The objectives should be measurable and more specific than the goals.
 - The action “Prioritize coastal areas for conservation and restoration” should be an objective (see section 6.2.2 below).
- Key terms should be defined in the Coastal Strategy including: sensitive, conservation, and protection.
 - Conservation is broader than protection. Conservation is about maintaining the characteristics and dynamics of natural environment at a baseline level and there are a variety of ways to accomplish this (e.g., stewardship, protection).
 - Protection is more specific than conservation. Protection is about protecting the characteristics and dynamics of natural environment from degradation through formal measures (e.g., formal protected areas under legislation).
- The goal, objectives and actions for this issue seem to have a strong landward focus. The Coastal Strategy should do a better job of recognizing the connectivity between coastal land and waters and the need to conserve both as “coastal systems”.
- The objectives seem focused on government processes and could do a better job of acknowledging the importance of engaging, coordinating, and collaborating with the wide range of stakeholders involved in coastal conservation efforts.
- Due to the high proportion of privately owned coastal land in Nova Scotia, engaging private landowners and land trusts in the conservation and stewardship of coastal ecosystems and

habitats is critical for addressing this issue. This is not reflected in the goal, objectives or actions.

Desired outcomes of the Coastal Strategy related to coastal ecosystems and habitats:

- The working group developed the following list of desired outcomes of the Coastal Strategy related to coastal ecosystems and habitats. This list is intended to provide guidance to the Government of Nova Scotia in revising the scope and hierarchy of the goal and objectives, and developing a complementary list of actions. It is important to note that this list is by no means a complete list of outcomes.
 - More coastal systems (land and water) are protected; including sensitive areas, ecologically-significant areas, representative areas, and areas of high biodiversity.
 - The Province's coastal systems are prioritized for conservation and protection through a collaborative process involving federal, provincial and municipal government agencies; academia; and NGOs.
 - Maps, datasets, and information relevant to conservation planning are up-to-date, accessible, and compatible and there is improved information sharing between government departments, academia and NGOs.
 - There is a provincial process for coastal planning (both land and marine).
 - The Coastal Strategy supports and is linked to other federal, provincial, municipal, and NGO management and conservation initiatives.
 - The Coastal Strategy supports existing processes and strategies for the recovery of coastal species at risk.
 - There is a 'toolbox' for private landowners that provides information and guidance on the various options available to private landowners for conserving natural processes, habitats, biodiversity on their land.
 - The degradation of coastal habitats and processes from human activities is reduced or prevented (e.g., shoreline armoring).
 - There is a web-based portal where organizations interested in coastal conservation can find and upload information.

6.2 Actions

- All actions were identified as important for addressing the coastal ecosystems and habitats issue, but the actions do not adequately address all objectives.
- "Prioritize coastal areas for conservation and restoration" is the highest priority for implementation.
- "Review key legislation" may take time to complete and therefore this action should begin as soon as possible.
- Although working group members identified "Coordinate and strengthen restoration programs" as an important action, they suggested that this action is not a priority for

implementation because the resources used to implement this action would be better used conserving and protecting coastal habitats, features and processes that are healthy and/or vulnerable to degradation.

6.2.1 Map coastal ecosystems

Comments and advice regarding the direction of the action:

- Need to determine the scope and scale of mapping needed to achieve goal and objectives. Ecosystem-scale mapping may be too broad. Ecologically significant areas, areas of high biodiversity, and coastal habitats should also be mapped.
- This action is a prerequisite for the action “Protect more coastal land in Nova Scotia” and is essential for informed decision-making.

Implementation advice:

- LiDAR data for priority conservation areas in the coastal zone would be valuable for mapping coastal ecosystems and habitats. The Government of Nova Scotia should develop a plan for gathering LiDAR data.
- The first step is to identify existing datasets that could contribute to this initiative.
- The Government of Nova Scotia should coordinate existing efforts to map coastal ecosystems by government departments and collaborate with academia and NGOs undertaking similar initiatives.
- The Government of Nova Scotia should lead efforts to improve information sharing between government departments, academia and NGOs. However, there is a need to be cautious about sharing sensitive information (e.g., cultural, heritage and archeological sites, the specific location of species at risk).
- The maps should be made available to all government departments and stakeholders that undertake activities that could affect habitats and natural resources. Government departments could establish formal data-sharing agreements with legitimate partners (instead of separate agreements for each dataset) to help ease concerns about data sharing.
- Mapping should be an ongoing process. Maps should be updated regularly to incorporate new information and reflect changes in coastal ecosystems and habitats over time.

Implementation opportunities:

- There are many government departments, academic institutions, community groups and NGOs with initiatives underway to map coastal areas for conservation planning. These efforts could be brought under one umbrella initiative with provincial leadership.
- LiDAR data collected for identifying areas vulnerable to coastal hazards could also be used to map coastal ecosystems.
- Local ecological knowledge (LEK) and traditional ecological knowledge (TEK) can be used to identify areas of ecological importance.

Implementation challenges:

- Mapping and analyzing data can be costly and labour intensive.
- Relevant datasets may be inconsistent and/or incompatible.
- Some organizations may be reluctant to share datasets.
- There are data gaps that need to be addressed for accurate mapping of coastal ecosystems.

6.2.2 Prioritize coastal areas for conservation and restoration

Comments and advice regarding the direction of the action:

- The working group suggested that this action be changed to an objective. Actions such as “Map coastal ecosystems” and “Protect more coastal land in Nova Scotia” could then fall under this objective.
- It was suggested this action (or objective; see comments above) statement be changed to “**Identify and** prioritize coastal areas for conservation, **protection, monitoring** and restoration”.
- This action is a prerequisite for the action “Protect more coastal land in Nova Scotia”.

Implementation advice:

- Prioritization process should be based on the best available science and data.
- Establishing criteria for prioritizing coastal areas will be an important step. All government departments working towards coastal conservation in Nova Scotia should develop and agree on a common set of criteria for prioritization.
- Government departments and organizations with a mandate for conservation and protection should lead this action while seeking input from other stakeholders.
- Connectivity between terrestrial and marine environments is an important consideration in the prioritization of coastal areas and the choice of conservation tools.
- The Coastal Strategy should build on existing prioritization initiatives (Department of Natural Resources, Nova Scotia Environment, DFO, Nova Scotia Nature Trust, etc.). While these initiatives may operate at different scales or have a different focus, they are complementary.
- This exercise should also include prioritizing coastal areas for monitoring to assess changes over time and address knowledge gaps.
- The conservation of habitats should be aligned with recovery strategies for species at risk. Piping Plovers and roseate terns are two coastal habitat-dependent species with available recovery documents.

Implementation opportunities:

- There are a number federal and provincial government departments and NGOs with habitat classification and prioritization exercises underway that could feed into this action.

- A Physiographic Classification of Nova Scotia's Coastline was a collaborative effort between federal and provincial departments and Dalhousie University.
- Nova Scotia Nature Trust is undertaking a GIS-based prioritization exercise along the coast of Nova Scotia that will prioritize privately owned land for conservation.
- Environment Canada is working on a report focusing on marine bird 'hot spots' in Atlantic Canada and is developing a regional plan for bird conservation.
- Bird Studies Canada (BSC) is developing a tool to help prioritize beaches that are proposed critical habitat sites for Piping Plovers in Nova Scotia. BSC has also developed the Maritime Breeding Bird Atlas, an extensive online publicly accessible database on bird distribution and abundance.

6.2.3 Establish coastal development standards⁷

Comments and advice regarding the direction of the action:

- Sea-level rise will impact coastal ecosystems and habitats and therefore there should be greater integration between the sea-level rise and storm events and coastal ecosystems and habitats sections of the Strategy.

Implementation advice:

- Shoreline armouring may be necessary in some cases (e.g., protection of heritage and archeological sites), but protection structures often degrade coastal habitats and processes and could result in 'coastal squeeze'. The Coastal Strategy should somehow address this concern over shoreline armouring, either through this action or a specific new action.
- A setback around sensitive and ecologically-significant coastal features has potential to be an effective tool for protecting coastal ecosystems and habitats (similar to the *New Brunswick Coastal Protection Policy*).
- The standards should ensure that coastal development does not negatively impact the most ecologically productive, sensitive and threatened habitats.
- The standards should include regulations regarding the infilling of coastal wetlands, development on sensitive beaches and dunes, the hardening and clearing of coastlines, and land-based sources of pollution.
- This action should also involve closing loopholes in existing regulations.

⁷ The draft Coastal Strategy lists this action under a number of the priority coastal issues. See the following sections for additional comments and advice regarding this action:

- Coastal development – pages 20-21
- Sea-level rise and storm events – pages 29-30
- Coastal water quality – pages 53-54

6.2.4 Protect more coastal land in Nova Scotia

Comments and advice regarding the direction of the action:

- Similar wording and scope as the overall goal for this issue. This suggests the scope of the goal should be broadened.
- Implementation of this action will be informed by other actions including “Map coastal ecosystems” and “Prioritize coastal areas for conservation and restoration”.
- Given that over 85% of the Province’s coast is privately owned, protecting more coastal land must include non-governmental organizations, like the Nova Scotia Nature Trust as part of the solution. This should be clearly stated as part of the action.
- The Coastal Strategy should also recognize the need to protect coastal waters (e.g., bays and estuaries) as well. Efforts to protect coastal land should recognize the connectivity between the land and coastal waters. It was suggested that this action be revised to “Protect more coastal **land and waters** in Nova Scotia”.

Implementation advice:

- The Government of Nova Scotia should provide incentives for private landowners to take action on their own lands to protect biodiversity and habitats through stewardship activities or formal conservation easements.
- The Government of Nova Scotia should provide land trusts with a long-term, sustainable funding mechanism to help conserve private lands. The Nova Scotia Crown Share Land Legacy Trust (NSCSLLT) currently provides funding for land conservation on private land, but this fund will eventually expire.
- The intertidal zone is a gap in coastal conservation efforts. Provincial legislation could be used to address this gap.

Implementation challenges:

- Due to the high proportion of privately owned land in the Province, the effectiveness of traditional mechanisms for permanent land conservation (e.g., formal government designation) that would ensure protection of coastal ecosystems from development is limited.
- Inability of governments to respond quickly to opportunities for land acquisition.

Implementation opportunities:

- Organizations dedicated to land protection such as the Nature Conservancy and the Nova Scotia Nature Trust have a great deal of experience working with private landowners to conserve coastal lands and could make a valuable contribution to the Coastal Strategy.
- Some of the mapping work that is already underway, such as the *Physiographic Classification of Nova Scotia’s Coastline* could be used to identify gaps in the Province’s protected area program from a representative ecosystem standpoint.

6.2.5 Review key legislation

Comments and advice regarding the direction of the action:

- The purpose of the reviewing legislation is not clear. The purpose of this action should be explained in the Coastal Strategy. The working group suggested that the purpose of the review should be to identify and address legislative weaknesses and gaps in support of the goal and objectives.
- This process should not delay the implementation of other measures for coastal conservation.

Implementation advice:

- The *Conservation Easements Act* should be reviewed.
 - Under the Act, there is potential for mining to occur on private lands protected by conservation easements. This is a major barrier to land trusts working with landowners to conserve private lands. Legislative changes are needed to address this issue.
 - There are groups interested in using this Act for diverse purposes (i.e. farmland and archaeological site conservation) beyond what it was originally created to address. These diverse uses risk weakening the enforceability and integrity of the Act.
- The *Beaches Act* should be reviewed.
 - The Act could be strengthened to provide greater protection for the Province's beaches and beach habitat. This would support the overall goal and the previous action – 'Protect more coastal land in Nova Scotia'.

Implementation opportunities:

- The Nova Scotia Nature Trust was involved in a previous revision of the *Conservation Easements Act* and would be pleased to participate in the review of this legislation.
- The Canadian Wildlife Service has undertaken a legislative review to identify gaps in legislation for beach habitat to identify levels of protection for Piping Plover.

Implementation challenges:

- Reviewing legislation can be a lengthy process and the destruction and degradation of coastal ecosystems and habitats occurs quickly.

6.2.6 Work in partnership with the federal government on marine conservation planning

Comments and advice regarding the direction of the action:

- The need to conserve and protect coastal waters should be more explicit in the Coastal Strategy.

Implementation advice:

- Ongoing engagement with stakeholders and coastal communities as well as collaboration between federal-provincial governments is critical to the success of this action.

Implementation opportunities:

- Existing inter-governmental groups should be used to help advance this strategy. For example, the Coastal Protected Areas of Nova Scotia (CPANS) working group has the expertise to support the implementation of the Coastal Strategy and could potentially work directly on some of the action items.
- DFO's MPA Network Planning process will include coastal areas of Nova Scotia. Federal and provincial governments can work together to ensure this process supports both federal and provincial priorities.

6.2.7 Coordinate and strengthen restoration programs

Comments and advice regarding the direction of the action:

- Coordination is key to ensuring restoration does not occur in a piecemeal fashion.
- The resources used to implement this action may be better used conserving and protecting coastal habitats, features and processes that are healthy and/or vulnerable to degradation.

Implementation advice:

- Habitat for species at risk should be a priority for restoration. Recovery strategies for species at risk could be a useful source of information in this regard.
- The Government of Nova Scotia should monitor restoration efforts to gauge success. Plants and birds can be useful indicators for assessing habitat restoration projects.
- There should be an effort to document and share lessons learned and methodologies.

Implementation opportunities:

- The Government of Nova Scotia could engage local residents in restoration and monitoring.

6.2.8 Suggested actions

It was suggested that the Government of Nova Scotia consider adding the following actions to the Coastal Strategy to address the coastal ecosystems and habitats issue:

- **Develop and promote conservation and stewardship tools for coastal communities and private landowners.** The Government of Nova Scotia could work with existing non-governmental organizations to provide resources and educational opportunities for residents to effectively steward land within their communities.
 - The Government of Nova Scotia's Community Lands Trust initiative currently under development was identified as a potentially useful tool.
 - Bird Studies Canada has produced a landowner stewardship guide [<http://www.birdscanada.org/volunteer/nsplover/NSHealthyBeaches.pdf>].

6.3 Information Needs and Knowledge Gaps

- Spatial data/information for ecological features, habitats, species distribution and abundance in the subtidal area of the coastal zone.
- The location and extent of eelgrass should be a research priority given its importance for birds (feeding) and fish species (nursery and spawning areas) and its role in structuring physical coastal ecosystems (filtering the water column, sediment stabilization, etc.).
- Spatial data/information about the distribution of species at risk.
- Comprehensive and accurate (i.e. ground checked) coastal habitat dataset.
- Need to identify indicator species and natural processes that can be monitored effectively.
- Primary limiting factors and pressures facing coastal biodiversity, particularly declining or at-risk species.
- Wildlife corridors and migration patterns along the coast.
- The effects of shoreline armouring on ecosystems and natural processes.
- The recreational carrying capacity of sensitive coastal areas, such as sandy beaches.
- Detailed assessments of the state of coastal biodiversity and habitat, starting with sensitive ecosystems and areas of high conservation importance (e.g., sandy beaches, salt marsh, coastal islands).

7. Working Waterfronts

Feedback and advice on the draft Coastal Strategy provided by the working waterfronts working group is summarized below. Section 7.1 summarizes the working group's comments and advice on the goal and objectives for this issue. Section 7.2 summarizes the working group's comments on each of the proposed actions for addressing working waterfronts including implementation advice, challenges and opportunities. Section 7.3 summarizes the information needs and knowledge gaps related to working waterfronts in Nova Scotia identified by the working groups.

It is important to note that the intent of this report is to capture the range of perspectives on the draft Coastal Strategy put forward by the working group members. Therefore, the working groups did not necessarily reach consensus on the statements included in this report. Instances where there was consensus or broad disagreement among working group members regarding a particular point are noted in the report.

7.1 Goal and Objectives

- Feedback from the working group suggests that the goal and objectives need to be clarified and more focused to address the working waterfronts issue.

Comments on the goal 'Working waterfronts that are safe, efficient and support a mix of industry and community uses':

- The goal is broad and its intent is not clear. There is potential for the goal to be misinterpreted and it should be more focused and refined.
- The issue of safety is mentioned in the goal, but there is little to address this issue in the objectives and actions. Well maintained infrastructure is required to support the goal of safe working waterfronts. It was suggested that safety and maintenance could be a separate third objective.
- Consider whether the intent of the goal is for all sites to support both industry and community uses. It may be better to identify appropriate uses on a case by case basis.
- Safety and security issues may arise when community and industrial waterfront uses are adjacent. However, there are examples of successful coexistence between multiple uses (e.g., Halifax Harbour).

Comments on the objective 'Increase the ability of local communities to manage and use working waterfronts':

- This objective could be interpreted as government downloading responsibilities for managing waterfronts to local communities.

Comments on the objective ‘Maintain and enhance industrial access to working waterfronts’:

- Most industrial uses of working waterfronts are in decline around the Province. It is not clear how the Coastal Strategy can achieve this objective through the proposed actions.
- There must be a business case for maintaining infrastructure.
- Tourism is mentioned as an industry in the descriptive text, but the objective and actions do not capture the focus on tourism.

General comments on the preamble, goal and objectives:

- The draft Coastal Strategy seems to be focused on ‘traditional’ industrial waterfront uses (i.e. commercial fishing). Industrial use of waterfronts are declining in many areas of the Province and the ‘fishing-only’ harbour model is increasingly rare, but there are opportunities for growth in more contemporary waterfront uses such as aquaculture, alternative energy, recreation, eco-tourism, small business and commercial uses. For this reason, the working group suggested that the Coastal Strategy be open to all potential waterfront uses and embrace a ‘mixed-use’ or ‘water-dependent’ approach to this issue.
- If the Government of Nova Scotia wants to promote small-scale commercial waterfront developments, the Coastal Strategy should refer to definitions of water-dependant, water-enhanced, and water-related businesses.
- The Coastal Strategy should focus on assisting waterfront communities with capacity building and planning and the role of the Government of Nova Scotia as facilitator.

7.2 Actions

- All actions were identified as important for addressing the working waterfronts issue.
- “Identify and address the priority needs of working waterfronts” through a provincial waterfront inventory was identified as the highest priority action for implementation because this information can be used to focus the other actions.

7.2.1 Identify and address the priority needs of working waterfronts

Comments and advice regarding the direction of the action:

- There is an urgent need to identify priority needs of working waterfronts.

Implementation advice:

- This should be accomplished through a comprehensive inventory of working waterfronts in the Province. This inventory should collect a variety of information about each waterfront including: ownership, management structure, capacity, infrastructure, state of repair/safety, uses, needs, emerging issues, and waterfront events.
- Once complete, the inventory should be used as the basis for establishing specific, measurable, attainable and realistic goals and actions for each working waterfront and building public awareness about waterfront issues.

- The participation of waterfront communities in this process is essential for understanding the importance of the waterfront to the community and identifying the pressures of alternative use.

Implementation challenges:

- Both urban and rural waterfront communities are changing quickly and may need to be re-assessed regularly.
- Categorizing waterfront communities is a challenge because each community has different issues and concerns.

Implementation opportunities:

- The Coastal Communities Network [<http://www.coastalcommunities.ns.ca/>] and [Marinas.com](http://www.marinas.com) have information that could contribute to the waterfront inventory.
- The U.S. has compiled the report called *Access to the Waterfront: Issues and Solutions from Across the Nation* [<http://www.seagrant.umaine.edu/files/pdf-global/07access.pdf>]. The report represents needs assessment and solutions compilation for waterfronts in the U.S. and could provide guidance to Nova Scotia.

7.2.2 Develop tools and resources for planning and capacity building that support economic activities and address safety issues

Comments and advice regarding the direction of the action:

- The way this action is phrased is confusing. This action could be turned into two distinct actions: (1) planning and capacity building for economic activities, and (2) planning and capacity building for addressing safety issues.
- Capacity building is one aspect of addressing safety issues, but technical needs such as engineering and construction are also important.

Implementation advice:

- The role of government is to provide resources, templates and tools for planning and capacity building, while the role of waterfront communities is to identify issues and solutions.
- The role of the Government of Nova Scotia should be:
 - to act as a facilitator in the identification and resolution of issues regarding working waterfronts;
 - to assist waterfront authorities and associations with information sharing, networking, business development and marketing, capacity building, planning; and
 - to provide technical support, training, decision-making tools and information about best practices.
- A number of working group members recommended that the Government of Nova Scotia facilitate the creation of a provincial waterfront coalition as well as local waterfront

coalitions (e.g., North Victoria 6 Port Harbour Authority) to share information and identify opportunities for collaboration.

- The Government of Nova Scotia should create a ‘playbook’ that provides information about success stories and various economic development models and opportunities for waterfront communities.
- Infrastructure that is not sustainable in the long-term should be identified and addressed immediately through a transparent process involving waterfront communities. A key component of this process is assessing the vulnerability of waterfront infrastructure to coastal hazards.

Implementation challenges:

- Current federal funding is inadequate and additional funding is required to maintain existing waterfront infrastructure as well as build new infrastructure.
- Wharves are an integral piece of infrastructure for waterfront communities. Waterfront uses can generate substantial revenue for these communities, but the users may be unable to pay to maintain and repair the wharf themselves.
- Long-term planning is often deferred in lieu of immediate funding needs.
- It may be difficult to build community participation and interest in long-term planning without assurance from government that their local coastal infrastructure will be supported in the future.
- Overlapping jurisdictional responsibilities are a barrier to waterfront development projects and effective waterfront management.

Implementation opportunities:

- Various financing options could be available through the public, private and NGO/community development sectors.
- Working waterfront coalitions that have been established in several U.S. states, including Maine [<http://www.ceimaine.org/Fisheries>] and could serve as a model for Nova Scotia.

7.2.3 Adapt successful models from Nova Scotia and other jurisdictions

Comments and advice regarding the direction of the action:

- This action has been successful in the U.S.

Implementation opportunities:

- The other provinces in Atlantic Canada as well as other jurisdictions are experiencing similar issues as in Nova Scotia.
- There are many good models from the U.S., but they would have to be adapted to the provincial context.

- Lunenburg waterfront is a successful model that could be adapted by other waterfront communities. The collaborative management model by which the Province, town and local business community share responsibilities is a key factor in its success.
- The Yarmouth and Acadian Shores Tourism Association's Living Wharves program is a good model [<http://www.savourthelocalsea.com/living-wharves>].
- The waterfront inventory could be used to identify opportunities for peer-to-peer learning and sharing success stories.

7.2.4 Additional actions

It was suggested that the Government of Nova Scotia consider adding the following actions to the Coastal Strategy to address the working waterfronts issue:

- ***Identify land-use planning tools to protect and enhance working waterfronts.*** Land-use planning tools such as zoning can be used to ensure lands with potential for marine-dependent uses are not converted to other uses or lost to coastal hazards, and that adjacent land uses are compatible.
- ***Develop financial incentives to assist with the preservation and enhancement of strategic waterfront land and infrastructure.*** It was suggested that the Government of Nova Scotia could consider current use taxation to preserve desired waterfront uses. It was suggested that the Government of Nova Scotia offer financial incentives for improving the long-term sustainability of coastal infrastructure (e.g., relocating infrastructure away from vulnerable areas and/or building more resilient infrastructure).

7.3 Information Needs and Knowledge Gaps

- Up-to-date and information about the contribution of waterfront and marine-dependent uses to the social and economic well-being of individual communities and the Province as a whole.
- Effective models for preserving marine-dependent uses and developing successful mixed-use waterfronts.
- Vulnerability of waterfront communities/infrastructure to coastal hazards.
- Emerging markets and waterfront development opportunities.

8. Coastal Water Quality

Feedback and advice on the draft Coastal Strategy provided by the coastal water quality working group is summarized below. Section 8.1 summarizes the working group's comments and advice on the goal and objectives for this issue. Section 8.2 summarizes the working group's comments on each of the proposed actions for addressing coastal water quality including implementation advice, challenges and opportunities. Section 8.3 summarizes the information needs and knowledge gaps related to coastal water quality in Nova Scotia identified by the working groups.

It is important to note that the intent of this report is to capture the range of perspectives on the draft Coastal Strategy put forward by the working group members. Therefore, the working groups did not necessarily reach consensus on the statements included in this report. Instances where there was consensus or broad disagreement among working group members regarding a particular point are noted in the report.

8.1 Goal and Objectives

- Feedback from the working group suggests that, in general, the goal and objectives set the right direction for addressing the coastal water quality issue.

Comments on the goal 'Coastal water quality that supports healthy ecosystems, recreation, fish harvesting and aquaculture':

- Good coastal water quality may be needed to support aquaculture, but aquaculture can also degrade coastal water quality.

General comments on the preamble, goal and objectives:

- Three separate elements are identified in the goal; however, the two objectives only address two of these elements (i.e. recreation and fish harvesting/aquaculture). Therefore a third element providing guidance of the relationship between coastal water quality and healthy marine ecosystems is required.
 - This objective should focus on biodiversity and the impacts of land-based pollution on marine ecosystems.
 - The coastal water quality and coastal ecosystems and habitats sections could potentially share an objective regarding coastal biodiversity and ecosystems.
 - The Coastal Strategy could look to Environment Canada's objectives regarding marine water quality for guidance on developing this objective.
 - "Coastal ecosystems are protected from pollution from land-based activities" was suggested as a possible third objective.
 - "Coastal water quality does not exceed the Canadian Council of Ministers of the Environment (CCME) Guidelines for aquatic ecosystem health" was suggested as a possible third objective.

- The Coastal Strategy, particularly the coastal water quality section, should make stronger linkages with the Water Strategy and the Wetlands Conservation Policy.
 - Pollution from land-based activities has a major influence on coastal water quality. Therefore, the overlap between the Coastal Strategy and the Water Strategy should be emphasized.
 - The watershed approach and watershed planning alluded to in the Water Strategy could contribute to achieving the goal and objectives for coastal water quality. The watershed approach would ensure the receiving waters are getting the highest water quality possible from inland sources and create a vital connection between the Water Strategy and the Coastal Strategy.

8.2 Actions

- All actions were identified as important for addressing the issue of coastal water quality.
- A logical implementation order for the actions would be to focus on “Establish coastal water quality standards and thresholds” and “Establish coastal development standards” first, then “Improve and integrate coastal water quality monitoring”, and finally “Identify and prioritize areas impacted by poor coastal water quality and reduce pollution sources”.

8.2.1 Establish coastal water quality standards and thresholds

Comments and advice regarding the direction of the action:

- The Coastal Strategy should also commit to setting pre-agreed management actions that are triggered when thresholds are exceeded. For example, once it has been confirmed that a threshold has been exceeded; actions could be taken to identify and reduce the source(s) of contamination.

Implementation advice:

- There is a temporal element to monitoring and thresholds. Measurements may only exceed a particular threshold over a short period of time (a single-day measurement) or they may exceed the threshold over longer periods (monthly, weekly, or annual averages).
- The first step is to establish baseline parameters for monitoring upon which the standards and thresholds are compared. Where available, existing data could be used to establish to this baseline.
- A complementary enforcement plan should accompany the standards and thresholds.
- Implementation of this action should begin by focusing on recreational water quality. The Government of Nova Scotia should establish a recreational water quality monitoring program that incorporates elements of the Blue Flag certification standards for beaches and marinas [<http://www.blueflag.org/>]. The objectives of the program should be to monitor recreational water quality and to increase public education and awareness by making the monitoring data easily accessible to the public.

- The CCME Guidelines would provide a good basis for these standards and thresholds because they provide consistent national standards and could be adopted by all levels of government.

Implementation challenges:

- Coastal water quality monitoring programs rarely trigger and response or actions when thresholds are exceeded.

Implementation opportunities:

- The Nova Scotia Lifeguard Service monitoring water quality to ensure the water is safe for recreational use. When thresholds are exceeded, beaches are closed. Therefore, baseline data on recreational water quality for supervised beaches in the Province should be available.
- The Government of Nova Scotia can draw on the expertise of organizations that already apply CCME standards (e.g., Halifax Water).

8.2.2 Improve and integrate coastal water quality monitoring

Comments and advice regarding the direction of the action:

- ‘Improve’ and ‘integrate’ are very different. No direction for improving water quality monitoring is provided in the descriptive text.
- Complete integration of monitoring programs is difficult and may be unrealistic. Coordinating and producing integrated reports on coastal watersheds and receiving coastal waters based on data from various monitoring programs may be a better direction for this action.

Implementation advice:

- The first step is to take an inventory of monitoring programs, the types of data collected, and identify a contact for follow up.
- There should be a central database for all water quality monitoring data (fresh and marine water) in the Province. The database should include data collected by all levels of government, academia, NGOs, and community groups and there should be incentives for these organizations to participate and contribute. It should be web-based and publicly accessible. Nova Scotia Environment’s Water Portal [<http://waterforlife.gov.ns.ca/>] was suggested as a home for the database.
- A good approach may be to support the expansion of established municipal and community-based freshwater monitoring networks/programs into coastal waters.
- Established municipal and community-based monitoring networks/programs need support and funding from the federal and provincial governments. They are a cost-effective means of implementing this action.
- Key parameters to monitor include: nutrients (e.g., nitrogen and phosphorous), fecal coliforms, storm-water quality (can contain a variety of contaminants).

- Leadership and commitment to this action must come from the Government of Nova Scotia.

Implementation challenges:

- Potential barriers to sharing monitoring data include liability and privacy concerns, compatibility issues, and desire to maintain competitive advantage.
- Data collection and analysis can be costly.
- Recent government cutbacks have resulted in either a reduction of sampling or downloading to other agencies.

Implementation opportunities:

- The Saint Mary's University Community-Based Environmental Monitoring Network has developed *The Nova Scotia Marine Community Monitoring Manual* [<http://www.envnetwork.smu.ca/resources.html>].
- Increased monitoring could help identify pollution sources and ensure funding is directed to infrastructure improvements and remediation actions that will have the greatest effect on coastal water quality.

8.2.3 Identify and prioritize areas impacted by poor coastal water quality and reduce pollution sources

Comments and advice regarding the direction of the action:

- Given the significance of pollution from land-based activities, this action may also involve identifying and prioritizing inland areas.

Implementation advice:

- Public safety and economic costs are appropriate criteria for prioritizing areas.
- The Government of Nova Scotia will need to collaborate with other levels of government as well as a range of stakeholders including industry, private landowners, NGOs, and community groups.
- Given the significance of pollution from land-based activities, the Government of Nova Scotia should use the watershed approach.
- This action should involve educational programs for local residents about domestic pollution sources and their impacts on coastal water quality.
- The Government of Nova Scotia should offer incentives to owners of on-site septic systems to upgrade and maintain them appropriately. The Government of Nova Scotia should expand the Environmental Home Assessment Program (EHAP).
- On-site septic systems are likely the most significant source of pollution in the Province's coastal waters. Agricultural land use is also a significant source of bacterial contaminants, carcinogens, and nutrient loadings responsible for eutrophication.

Implementation opportunities:

- Modeling can be a useful tool for prioritizing areas because it can help identify the sources, pathways, distribution, transport and sinks of contaminants.
 - Modeling can be used to predict the impacts of septic systems on adjacent coastal waters and could help to prioritize areas for monitoring.
 - Modeling can be used to predict the impacts of urban and stormwater runoff (using impervious surfaces as a proxy) on adjacent coastal waters and could help to prioritize areas for monitoring.

Implementation challenges:

- Remediation of polluted areas can be costly.
- It can be difficult to identify sources of contaminants because they can be transported long distances and non-point sources are inherently difficult to identify.

8.2.4 Establish coastal development standards⁸

Implementation advice:

- Buffers between development and the shoreline, watercourses, and wetlands could help protect coastal water quality. In areas where septic systems are located in shallow soil, large buffers (minimum 30 m) may be needed to minimize the impact on coastal water quality.
- Additional development standards should be established to complement buffers. For example, the number of development permits issued in a given area could be based on the carrying capacity of local waterbodies (e.g., lakes, rivers, estuaries). Water quality thresholds could be used to monitor and enforce these standards.
- Any development standards for industry (e.g., agriculture, forestry) should be regulations, not best management practices (BMPs), even if the BMPs are tied to funding.
- The Government of Nova Scotia could develop a regulatory system for on-site septic systems.
- Standards for forestry, agriculture and road building are beyond the scope of municipal responsibilities and should be established by the Government of Nova Scotia.
- Development standards could be a powerful tool for improving coastal water quality and achieving the goal and objectives for this issue (e.g., watercourse buffers, standards and regulations for septic systems).
- Scientifically-based standards and regulations may be more widely accepted than blanket standards and regulations.

⁸ The draft Coastal Strategy lists this action under a number of the priority coastal issues. See the following sections for additional comments and advice regarding this action:

- Coastal development - pages 20-21
- Sea-level rise and storm events – pages 29-30
- Coastal ecosystems and habitats – page 39

- The *Bras d'Or Lakes Development Standards* [<http://brasdorcepi.ca/projects/land-use/>] should be implemented by municipalities bordering the Bras d'Or Lakes.

Implementation challenges:

- Resistance from those who stand to be affected by the new development standards.

Implementation opportunities:

- The *Bras d'Or Lakes Development Standards* could provide some guidance [<http://brasdorcepi.ca/projects/land-use/>].

8.2.5 Additional actions

It was suggested that the Government of Nova Scotia consider adding the following actions to the Coastal Strategy to address the coastal water quality issue:

- ***Establish a collaborative governance body to support implementation of the Coastal Strategy.*** A collaborate governance body may be helpful due to the many government departments and wide range of stakeholders who will need to be involved in addressing this issue. The Government of Nova Scotia could establish a Coastal Advisory Group, similar to Water Advisory Group established under the Water Strategy.
- ***Increase public education and awareness about domestic sources of pollution and their impact on coastal water quality.*** Domestic sources of pollution have a significant impact on coastal water quality and coastal residents should be informed about best practices.
- ***An action(s) to support a possible third objective about the relationship between coastal water quality and healthy marine ecosystems.*** Environment Canada's Canadian Aquatic Biomonitoring Network (CABIN) [<http://www.ec.gc.ca/rcba-cabin/>] and DFO's Community Aquatic Monitoring Program (CAMP) [<http://www.glf.dfo-mpo.gc.ca/e0006182>] could provide some guidance for this action(s).
- ***Work with other levels of government and stakeholders to implement good coastal watershed management practices.*** Decisions and activities in coastal watersheds have a significant impact on coastal water quality.

8.3 Information Needs and Knowledge Gaps

The following were identified as priority research and information needs to address the issue of coastal water quality:

- Baseline data on the Province's coastal water quality.
- Inventory of pollution sources (point and non-point).
- Relationship between water quality in inland watershed areas and adjacent coastal areas.
- Impacts of different types of coastal development on coastal water quality.
- Cumulative impacts of contaminants on coastal ecosystems.
- Distribution, transport and behaviour of contaminants in the marine environment.

Coastal Water Quality

- The effects of coastal geomorphology, tides, currents, and weather on coastal water quality.

9. Public Coastal Access

Feedback and advice on the draft Coastal Strategy provided by the public coastal access working group is summarized below. Section 9.1 summarizes the working group's comments and advice on the goal and objectives for this issue. Section 9.2 summarizes the working group's comments on each of the proposed actions for addressing public coastal access including implementation advice, challenges and opportunities. Section 9.3 summarizes the information needs and knowledge gaps related to public coastal access in Nova Scotia identified by the working groups.

It is important to note that the intent of this report is to capture the range of perspectives on the draft Coastal Strategy put forward by the working group members. Therefore, the working groups did not necessarily reach consensus on the statements included in this report. Instances where there was consensus or broad disagreement among working group members regarding a particular point are noted in the report.

9.1 Goal and Objectives

- Feedback from the working group suggests that, in general, the goal and objectives set the right direction for addressing the public coastal access issue.

Comments on the objective 'Increase the number of public access points to the coastline':

- In addition to increasing the number of access points, it is important to enable and enhance use of existing access points.
- Public access to ecologically and culturally sensitive coastal areas may need to be limited.

Comments on the objective 'Increase the quality and diversity of public access to the coast':

- It is not clear what is meant by 'quality' and 'diversity'. These terms should be defined in the Coastal Strategy.
- Resolving conflicts over coastal access could enhance use of existing access points.
- Recreational water quality is an important factor in the quality of public coastal access.

General comments on the preamble, goal and objectives:

- The goal and objectives should take a more comprehensive approach to addressing this issue. Actions designed to address public coastal access have the potential to affect environmentally sensitive or culturally significant coastal areas and the rights of private landowners. The Coastal Strategy should provide guidance on how the Government of Nova Scotia's approach for addressing public coastal access relates to these other considerations.

9.2 Actions

- All actions were identified as important for addressing the issue of public coastal access, although some working group members did not think that "Remove barriers and create

incentives for private landowners to allow public access” would make a significant contribution to achieving the goal and objectives.

- “Increase education and awareness about public access and citizens’ rights and responsibilities” is a top priority for implementation because it is a prerequisite for the other actions. Questions about legal liability, rights and responsibilities need to be resolved before the Government of Nova Scotia can make informed decisions about how to address public coastal access.

9.2.1 Create an inventory of existing public access points

Implementation advice:

- There are many different types of public access points and a classification scheme for the access points in the inventory will also be required. Some of the characteristics that should be recorded about each access point and used to develop the classification scheme include:
 - type of access (e.g., physical access, visual access and look-offs, etc.); presence or absence of access ramps, small-craft launching facilities, trails, roads, parking, campsites/picnic sites, and their condition; physical terrain; signage; seasonal openings/closures; and relevant environmental and cultural sensitivities.
- A number of working group members suggested that an advisory committee or working group comprised of representatives from relevant stakeholder groups (e.g., tourism sector, sport and recreation groups, municipalities, community groups, land trusts, etc.) could assist in the design and development of the inventory and ensure that it meets the needs of users.

Implementation challenges:

- This action will involve gathering, managing, updating and verifying a large amount of information and it may be difficult to secure the resources and staff to create the inventory.
- Collecting information about informal access points over private land is important but this information cannot be made publicly available due to concerns over liability and the rights of private land owners.

Implementation opportunities:

- There are many stakeholder groups that can provide information for the inventory (e.g., tourism, sports and recreation, NGOs, community groups, land trusts, municipalities).
- Some sector and use-specific inventories have already been created. For example, Trails Nova Scotia [<http://www.trails.gov.ns.ca/>] contains information about shared-use trails, sea kayak routes, and coastal water trails.

9.2.2 Increase education and awareness about public access and citizens' rights and responsibilities

Comments and advice regarding the direction of the action:

- The public is generally well aware of issues related to public coastal access. Therefore, the focus of this action should be increasing education and awareness about citizens' rights and responsibilities.
- This action is a prerequisite for the other actions. Questions about legal liability, rights and responsibilities need to be resolved before the Government of Nova Scotia can make informed decisions about how to address public coastal access. Promoting and facilitating increased public visitation to the coast without proper planning and a good understanding of these issues could potentially result in increased user conflicts and litigation.
- This action should include information about appropriate activities, the need for responsible use of coastal resources, and good stewardship practices.
- Use of the word 'increase' in this action has no real value since it is not measurable against quantifiable targets.

Implementation advice:

- Media campaigns and partnering with NGOs and community groups are some ways the Government of Nova Scotia can increase education and awareness.
- The Government of Nova Scotia should provide educational resources to citizens to learn about public coastal access such as a coastal access coordinator or a user-friendly website.

Implementation opportunities:

- The Accessing the Maine Coast website [<http://www.accessingthemainecoast.com/>] is a good model and could be adapted to reflect the Nova Scotia context. The site developers have offered use of the website template to the Government of Nova Scotia.

9.2.3 Protect and enhance public access on Crown Lands

Implementation advice:

- Several members of the working group point out the importance of some 'K-class' roads (publicly owned roads that are not maintained) as public access points. Sections of these roads, such as those near coastal bridges, are often used for parking and launching small-craft. To address this issues, it was suggested that the Government of Nova Scotia should consider:
 - establishing a moratorium on the sale of K-class roads that serve as important coastal access points;
 - developing a process for citizens to provide input into decisions about the sale of all K-class roads;

- maintaining certain K-class roads, or sections thereof, that serve as important coastal access points; and
- making maps of the K-class road network available to the public.
- There are a number of ‘owner unknown’ lots throughout the Province that could serve as coastal access points. The Government of Nova Scotia should develop a process for determining ownership of these lots. Any lots where ownership cannot be determined should be acquired and used to provide public access to the coast.

9.2.4 Remove barriers and create incentives for private landowners to allow public access

Comments and advice regarding the direction of the action:

- Some working group members did not think that this action would be very successful and that the Government of Nova Scotia should focus on acquiring coastal land for public access instead. Other working group members thought this action was essential for achieving the goal and objectives due to the high proportion of privately owned land in the Province.

Implementation advice:

- Legal uncertainties over liability are an important barrier that should be addressed.
- The Government of Nova Scotia should consider offering tax incentives to private landowners for allowing public access. It was suggested that the Government of Nova Scotia offer a partial property tax rebate for private landowners who allow public access.
- Conservation easements under the provincial *Conservation Easements Act* are not designed for public access. As a result, coastal access points often do not meet the ecological requirements for a conservation easement. The Government of Nova Scotia should develop a new type of easement designed specifically for public recreation and access to the coast. These easements should automatically carry liability insurance.
- The Government of Nova Scotia should develop a clear process for, and provide support to, members of the public who want to claim prescriptive rights over land parcels that have served as a traditional coastal access points.
- Land donors are required to pay capital gains tax on land they donate unless the land qualifies as an ‘eco-gift’ and many parcels of land that could provide public coastal access or serve as coastal buffers do not qualify. The capital gains tax is therefore an important barrier for landowners who desire to donate coastal land that does not qualify as ecologically significant. In addition to removing barriers such as these, the Government of Nova Scotia should offer incentives for donating land.
- Planning for public coastal access should be conducted in collaboration with private land owners to ensure they are supportive. Without their buy-in, they could form a coalition and block progress.

Implementation challenges:

- Private landowners may not be interested in allowing public access.
- The process for citizens to establish prescriptive rights is onerous and has time restrictions.
- Land parcels that serve as public coastal access points do not meet the requirements for conservation easements.
- Land trusts often incur substantial legal expenses to enforce conservation easements when land is transferred to new owners and to monitor activity on the land.
- Government agencies and land trusts are focused on acquiring ecologically significant coastal land, rather than land important for public access to the coast.

Implementation opportunities:

- The Government of Nova Scotia should engage land trusts because they have a great deal of knowledge and expertise in working with private landowners.

9.2.5 Additional actions

It was suggested that the Government of Nova Scotia consider adding the following actions to the Coastal Strategy to address the public coastal access issue:

- ***Develop strategies for acquiring or securing access to the coast over private lands for public use.*** A number of working group members mentioned that it is important for the Coastal Strategy to provide a means for acquiring or securing access to the coast over private lands for public use, since the majority of coastal land in the Province is privately owned. This would involve identifying and prioritizing existing or potential coastal access points over privately owned land and creating some tools or programs for acquiring or securing access to this land. Some of the potential tools that were suggested include the creation of an easement and/or land trust specifically tailored for public access.
- ***Establish coastal development standards and land-use planning tools.*** Some working group members stated that coastal development standards and land-use planning tools (e.g., setbacks, easements, taxation, and zoning) could help protect and enhance public coastal access. Under the *Municipal Government Act*, a percentage of land in a subdivision is required to be reserved as public land. Alternatively, a cash equivalent can be paid to the municipality. There should be a requirement that these funds be used for acquiring land for public access.

9.3 Information Needs and Knowledge Gaps

- Location and status of K-class roads, owner unknown lots, and traditional access points to the coast (over private and public land).
- Legal rights, responsibilities and liabilities of coastal users and private landowners related to public coastal access.

- The tools (legal, land-use planning, etc.) available to stakeholders to cooperatively address coastal access issues at the local level.

Appendix I: Working Group Membership

Governance Working Group

Heather Breeze – Fisheries and Oceans Canada (Maritimes Region)

Chris Bryant – Nova Scotia Office of Policy and Priorities

Mike Butler – International Ocean Institute Canada

Tony Charles – Saint Mary's University

Roland Cormier – Fisheries and Oceans Canada (Gulf Region)

Sherm Embree – Municipality of the District of Shelburne

Jen Graham – Ecology Action Centre

Lesley Griffiths – East Coast Environmental Law

Richard Haworth – Dalhousie University

Russ Henry – New Brunswick Department of Agriculture and Aquaculture and Department of Fisheries

Larry Hildebrand – Environment Canada

Geoff Le Boutillier – St. Margaret's Bay Stewardship Association

Julia McCuaig – Fisheries and Oceans Canada (Maritimes Region)

Colleen Mercer Clarke – Memorial University of Newfoundland

Melissa Nevin – KMK-Negotiation Office

Bob Rutherford – Consultant

Karen Traversy – Coastal Coalition of Nova Scotia

Coastal Development Working Group

John Bain – Eastern District Planning Commission

Doug Foster – Cape Breton Regional Municipality

Jen Graham – Ecology Action Centre

Jason Naug – Fisheries and Oceans Canada (Maritimes Region)

Bob Taylor – Geological Survey of Canada

Roger Wells – Halifax Regional Municipality

Sea-Level Rise and Storm Events Working Group

Dominique Berube – New Brunswick Department of Natural Resources

John Charles – Halifax Regional Municipality

Don Forbes – Geological Survey of Canada

Patricia Manual – Dalhousie University

Tracey Talbot – Meteorological Survey of Canada

Timothy Webster – Applied Geomatics Research Group

Coastal Ecosystems and Habitats Working Group

Sue Abbott – Bird Studies Canada
Graham Daborn – Acadia University
Jon Grant - Dalhousie University
Peter Green – Nova Scotia Nature Trust
Aimee Gromack – Fisheries and Oceans Canada (Maritimes Region)

Working Waterfronts Working Group

Eric Burchill – Waterfront Development Corporation
Brad Fulton – Yarmouth-Argyle-Barrington District Planning Commission
Kristen Grant – Maine Sea Grant
Paul MacDonald – Fisheries and Oceans Canada - Small Craft Harbours
Sandy MacMillan – Lunenburg Waterfront Development Corporation
Natalie Springuel – Maine Sea Grant

Coastal Water Quality Working Group

Nathan Crowell – Applied Geomatics Research Group
Cameron Deacoff – Halifax Regional Municipality
Barry Geddes – Halifax Regional Water Commission
Bill Livingston – Applied Geomatics Research Group
Britt Roscoe – Cape Breton Regional Municipality

Public Coastal Access Working Group

Lisa Dahr – Tourism Industry of Nova Scotia
Kristen Grant – Maine Sea Grant
Marion Homer – Kingsburg Coastal Conservancy
Matt Nixon – Maine Coastal Program
Dusan Soudek – Canoe Kayak Nova Scotia
Natalie Springuel – Maine Sea Grant

Appendix II: Questionnaires

Questionnaire (Coastal Development, Sea-Level Rise and Storm Events, Coastal Ecosystems and Habitats, Working Waterfronts, Coastal Water Quality, Public Coastal Access Working Groups)

1. Do the goals and objectives establish the right overall direction for this issue? Please explain.
2. What actions do you think are most likely to achieve the goals and objectives? What actions do you think are most important? Please explain.
3. Are there any additional ways of achieving the goals and objectives? Please explain.
4. What are some important challenges and opportunities related to the implementation of these actions? Do you have any advice regarding the implementation of these actions?
5. What organizations and stakeholder groups should be involved in the development and implementation of these actions? What should their role(s) in this process be?
6. What are the priority information needs and key knowledge gaps related to this issue in Nova Scotia?
7. Do you have any additional comments or advice regarding the coastal strategy?

Questionnaire (Governance Working Groups)

1. Do the goals and objectives establish the right overall direction for the issue of Governance? Please explain.
- 2 (a). What are the advantages and disadvantages of using the Networked and Legislative Approaches to coastal governance in Nova Scotia?
- 2 (b). Which approach (networked, legislative, or other) to coastal governance do you recommend for Nova Scotia and why? How should the approach be implemented?
- 3 (a). How should a lead body for coastal management within the Government of Nova Scotia be structured?
- 3 (b). How should a lead body for coastal management within the Government of Nova Scotia function (i.e. roles and responsibilities)? How should it work with and relate to existing institutions?

Appendix II: Questionnaires

4. How do you think the Government of Nova Scotia can best engage Nova Scotians in the implementation of the coastal strategy?
5. What are the priority information needs and key knowledge gaps related to the issue of Governance of Nova Scotia's coast?
6. Do you have any additional comments or advice regarding the coastal strategy?