

Marine Ecosystem-Based Management (EBM) Gaps Challenge Dialogue

Prepared by:

**The Pacific Marine Analysis & Research Association
(PacMARA)**

With advice from:

The Champions of the BC Marine Community of Practice

Process Champions:

DFO, Oceans, Habitat and Enhancement

DFO, Science

DFO, Fisheries and Aquaculture

Management

BC MOE, Oceans and Marine Fisheries

Parks Canada, Western and Northern
Service Centre

Transport Canada, Environmental Services

Natural Resources Canada, GSC Pacific

BC Integrated Land Management Branch

BC Agriculture and Lands, Aquaculture

In Association with —

Keith Jones, R. Keith Jones & Associates

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Disclaimer

The statements made in this document do not represent the official views of governments (including First Nations' governments) and are not necessarily the views, policies or positions of any of the organizations that have come together to champion and participate in this exploratory dialogue.

PacMARA is the author and synthesizer of the information and views captured in this document, which have been sourced as per footnote reference or from unattributed conversations. Some of the statements are assumption and/or opinion intended to initiate dialogue.

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1 Purpose of this Challenge Paper

The purpose of this Challenge Paper is to stimulate a dialogue that will engage the BC marine community of practice¹ in developing a common understanding of marine Ecosystem Based Management (EBM) and recommending a strategy with approach to address issues and opportunities to further its implementation and practice. A key outcome would be to better understand and frame marine EBM with a goal to addressing key issues and capturing key opportunities to continue to move marine EBM forward. This might be a recommendation on a process by which responsible agencies, First Nations and other interests collaboratively develop action plans to deliver on a shared strategy.

This Dialogue process is in partial fulfillment of the PacMARA Marine EBM Knowledge Program one of several objectives supported by a Gordon and Betty Moore Foundation² (GBMF) grant. The program comprises a series of activities supported and facilitated by PacMARA to: (1) improve the understanding and practice of marine EBM and (2) improve capacity on Canada's Pacific west coast. The activities include:

- Framing the marine EBM environment.
- Developing and delivering a strategy for an outreach and training program for EBM.
- Helping to facilitate the application of EBM in marine planning and decision-making.
- Leveraging EBM investments to date, including existing tools, skills and knowledge.
- Linking EBM science with marine policy development.

The intent is to take a shared, collaborative and purposeful leadership approach to this Dialogue. To this extent, while PacMARA is the author and synthesizer of this document, and is facilitating the early planning and on-going delivery of the Dialogue, the Dialogue process is co-lead and Championed by other key interests that have a mandate and responsibility for the coordinated delivery of marine EBM in BC waters.

2 The Process

The Champions of this Dialogue process are initiating an exchange of ideas, first electronically via this Challenge Paper and electronic dialogue and then with a Workshop which is designed to reflect and be informed by the preceding Dialogue. Feedback from the Dialogue will be synthesized and incorporated in a Workshop Workbook that will be distributed to all workshop participants. This approach will allow us to make the most effective use of our limited time together at the Workshop.

¹ The BC marine community of practice are those with an economic, social, environmental or culture interest in the well being of BC's coast and oceans, and marine related activities.

² See <http://www.moore.org/marine-conservation.aspx>

At various points in this Challenge Paper you will be asked for your reaction and further input. Please write your responses in the separate Feedback Document (MS Word format) provided. Please send in your completed feedback form by February 19, 2010 to info@pacmara.org.

3 Key Challenge

The proposed Key Challenge of this marine EBM Gaps Dialogue is:

To engage a diverse set of key interests in the marine community in an open and progressive conversation focused on developing common understanding of marine Ecosystem Based Management (EBM), starting with an assessment of the current situation and recommending a strategy with approach to address issues and opportunities in furthering EBM implementation and practice.

INPUT REQUEST #1: Please review the KEY CHALLENGE and provide your response in writing in the accompanying Feedback Form.

Consider — Do you agree with the Key Challenge? What is missing? Is anything not relevant in your view? What additional clarification would be helpful? What other ideas does the statement spark in your mind?

4 Background

Due to the interconnected nature of this Dialogue spanning the evolution of EBM practice in BC involving both science and policy, the Background addresses EBM definition and EBM policy of relevant jurisdictions. The intent is to provide both context for, and emphasize the need for this dialogue given the commitment of various jurisdictions to implement marine EBM on BC's Pacific coast.

4.1 Definition of EBM for the Purpose of this Dialogue

The starting point for a definition of EBM for the purpose of this Dialogue is taken from the Communications Partnership for Science and the Sea (COMPASS) definition signed off on by 220 plus scientists: Ecosystem-based management³ is an integrated approach to management that considers the entire ecosystem, including humans. The goal of ecosystem-based management is to maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need. Ecosystem-based management differs from current approaches that usually focus on a single species, sector, activity or concern; it considers the cumulative impacts of different sectors. Specifically, ecosystem-based management:

- a. Emphasizes the protection of ecosystem structure, functions, and key processes;

³ COMPASS (2005) See: http://www.compassonline.org/marinescience/solutions_ecosystem.asp

- b. Is place or location-based in that it focuses on a specific geographic – and volumetrically bounded ecosystem plus the range of activities affecting it;
- c. Explicitly accounts for the interconnectedness within systems, recognizing the importance of interactions between many target species or key services and other non-target species and their services;
- d. Acknowledges interconnectedness among systems, such as between air, land and sea; and;
- e. Integrates ecological, social, economic, and institutional perspectives, recognizing their strong interdependences.

For further descriptive information on EBM please see Appendix 1.

4.2 Relevant Background Regarding EBM Legislation, Policy and Planning

1. Although EBM is not specifically mentioned in federal legislation, the **Oceans** program⁴ of Fisheries and Oceans Canada is primarily responsible for overseeing and implementing the *Oceans Act*. The Oceans program leads the development of an integrated strategy to address the challenges of oceans conservation and protection, and the increased risks and potential conflicts resulting from new oceans uses. The centre piece of the *Act* and of DFO's oceans program is integrated management – designed to bring together diverse oceans stakeholders, provincial and territorial governments, First Nations and strong governance mechanisms into a single management approach for the management of Canada's oceans estate.
2. The *Oceans Action Plan* under the authority of the *Oceans Act* goes further and states “integrated management is a comprehensive way of planning and managing human activities so that they do not conflict with one another and so that all factors are considered for the conservation and sustainable use of marine resources and shared use of oceans spaces. It is an open, collaborative and transparent process that is premised on an **ecosystem approach**. It involves planning and management of natural systems rather than solely political or administrative arrangements, and is founded on sound science that can provide the basis for the establishment of ecosystem management objectives.
3. The implementation of *Integrated Management Planning* for Phase I of the Oceans Action Plan is focused in five priority geographic areas” – one of them being the *Pacific North Coast Integrated Management Area* (PNCIMA).
4. In September 2005, the federal Commissioner of the Environment and Sustainable Development⁵ found that DFO “had great difficulty moving from this conceptual definition [of integrated oceans management] to practical implementation” With

⁴ The Role of the Canadian Government in the Oceans Sector. Oceans Directorate, 2009.

⁵ Canada, Commissioner of the Environment and Sustainable Development. 2005. *Report: Chapter 1: Fisheries and Oceans Canada – Canada's Oceans Management Strategy*.

reference to three management areas, including the Pacific North Coast, the Commissioner noted that progress had been slow and recommended that DFO improve operational guidance on integrated management.” Since this Report a number of events⁶ have taken place culminating with the first PNCIMA Forum in March 2009. The Forum concluded with a significant amount of information generated to assist stakeholders better understand the directions of the PNCIMA Initiative and how their input may influence its progression. Similarly, organizers were given considerable material to catalyze the Initiative through the development of a common vision and stakeholder engagement strategy, a better appreciation of participant values, interests and perspectives as well as recognition of the challenges that may be faced as the Initiative unfolds.

5. To parallel this thinking from a terrestrial setting, where ecosystem-based management has been discussed for well over a decade, the British Columbia government⁷ is applying ecosystem-based management to protect key elements of old growth forests, such as representative ecosystems, freshwater ecosystems and critical grizzly bear habitat. In 2006 the Province of British Columbia, First Nations, conservationists, industry groups and local communities took an important step forward towards implementing an EBM legal framework by reaching consensus on a historic agreement on land use decisions for the Central and North Coast of B.C. This was followed up in February 2008, when the Province introduced the new legal framework for the Central and North Coast of B.C. that began the process of establishing EBM, covering an area of 6.4 million hectares. Subsequently the Province has finalized plans aimed at ensuring ecological integrity and improving human well-being in the region.
6. The Province of BC has completed a number of Coastal Plans⁸ for marine areas. The Provincial Plans focused on spatial planning for the purposes of tenuring activities that are compatible and appropriate with existing marine resources and interests located within the plan area. These plans integrate all available information on fisheries habitat and distribution, jurisdiction and local knowledge to produce plans for future development. They represent the most recent provincial attempt on integrated marine planning to date.
7. In December 2008, a Memorandum of Understanding was signed by Fisheries and Oceans Canada, Coastal First Nations⁹, and the North Coast-Skeena First Nations Stewardship Society¹⁰. This document confirmed the commitment of all three parties to

⁶ See: <http://www.pncima.org/history.html>

⁷ See: http://www.gov.bc.ca/yourbc/ecosystem/em_planet.html?src=/planet/em_planet.html

⁸ See: <http://ilmbwww.gov.bc.ca/slrp/lrmp/index.html> for a list of Coastal Marine Plans

⁹ Representing: Heiltsuk Nation, Council of the Haida Nation, Old Masset Village Council, Haisla First Nation, Gitga’at First Nation, Metlakatla First Nation, Kitasoo/Xaixais First Nation, Skidegate Band Council and Wuikinuxv Nation

¹⁰ Representing: Gitga’at First Nation, Gitxaala First Nation, Metlakatla First Nation, Kitsumkalum First Nation, Kitselas First Nation.

integrated marine use planning in the PNCIMA region to achieve the shared goals of maintaining healthy ocean ecosystems and sustaining local marine economies.¹¹ The Nanwakolas Council of First Nations on northern Vancouver Island are in negotiations that may lead to their signing on to the 2008 MOU. As stated in Coastal First Nations EBM Fact Sheet 1¹²: “Coastal First Nations have focused their efforts in several areas to ensure our ability to implement EBM on our territories: Developing and negotiating land use plans and agreements for each territory; Envisioning new roles and responsibilities and developing new governance institutions; Securing economic investments and funds for local community economic development initiatives; and, Developing guidelines for applying the EBM approach to forestry on the ground.”

8. Following up on agreements and earlier statements Coastal First Nations published a brochure in April of 2009 that outlines the principles of First Nations EBM. The publication is called, “Into the Deep Blue: Marine Ecosystem-based Management”¹³. In addition to identifying a unifying set of principles the document recognizes that First Nations Communities in the PNCIMA have differing priorities that will necessitate flexibility and collaboration.

9. The British Columbia government has recently drafted a BC’s Ocean & Coastal Strategy which is focused at addressing the following immediate issues and reducing the potential for missed opportunities:
 - Opportunities for economic development
 - Need for marine fisheries reform
 - Concerns about ocean health
 - Hardship in coastal communities

10. The WCVI Aquatic Management Board¹⁴, formally recognized by the BC Coastal Communities Network in May 1998, brings a new approach to managing aquatic resources in Canada based on transparency, coordination, accountability and a broader ecosystem perspective. Government and non-government interests work together to develop and implement strategies that address aquatic issues while moving towards a longer term vision and objectives. The Board's strategies are guided by its principles and developed with the participation of affected parties

11. Environmental Non-Government Organizations (ENGOS) are committed to the adoption of EBM related legislation and policy on BC’s pacific coast through joint efforts of groups like the ENGO Network, which includes Sierra Club, Living Oceans Society, Suzuki Foundation, Canadian Parks and Wilderness Society and WWF – Canada.

¹¹ See: <http://www.pncima.org/>

¹² See: http://www.coastalfirstnations.ca/files/Publications/Fact_Sheet_1.pdf

¹³ See: <http://www.coastalfirstnations.ca/files/PDF/intothedeepblue.pdf>

¹⁴ See: <http://www.westcoastaquatic.ca/about.htm>

12. United States President Barack Obama¹⁵, on June 12, 2009 directed the heads of his Executive Departments and Agencies that he had assigned an Interagency Ocean Policy Task Force to within 90 days develop recommendations that include: A national policy for the oceans, coasts and great lakes; a framework for policy coordination of efforts to improve stewardship of the oceans, coasts and great lakes; and, an implementation strategy to meet stated policy objectives. He also added that within 180 days the Task Force shall develop, with appropriate public input, a recommended framework for effective coastal and marine spatial planning. He also went on to state the framework should be comprehensive, integrated, **ecosystem-based approach** that addresses conservation, economic activity, user conflict and sustainable use of ocean, coastal, and Great lakes resources.... The Task Force started meeting on June 22, 2009 and have actively encouraged public engagement in their planning. Consistent with the charge made of the Task Force by the President, an interim report was released on September 10, 2009 that outlined the group's progress.

4.3 Background Events that Led to this Marine EBM Gaps Challenge Dialogue

Key recent events, including discussions, presentations, etc. that have led to the launching of this specific dialogue include:

1. November 2008. A draft report on marine EBM Knowledge Gaps undertaken by Jacqueline Booth Consulting for PacMARA in partial fulfilment of Gordon and Betty Moore grant commitments, which made recommendations on filling information gaps and identified the need for a more coherent process to deal with ecosystem management.
2. March 2009. The workshops¹⁶ hosted by PacMARA to evaluate the potential for the Stanford University led InVEST¹⁷ program confirmed gaps not only in knowledge assets but in critical components of the framework needed to deliver effective marine EBM (multi-jurisdiction, collaborative etc).
3. July 8th, 2009 PacMARA Board Strategic Planning session endorsed a scope change from the marine EBM Knowledge Gaps project focused on data and information to the broader marine EBM Gaps project focused on framework and current practice.
4. August 11, 2009. Discussion with Steve Diggon, Coastal First Nations focused on consideration of First Nations concerns that should be considered within the marine EBM Gaps Project.
5. August 2009. Series of discussion with Universities regarding participation of the academic community in the EBM dialogue and development of the EBM Challenge Dialogue: Dr. Kai

¹⁵ National Policy for the Oceans, our coasts, and the Great Lakes. Memorandum, Barack Obama. June 12, 2009. See: <http://www.gpoaccess.gov/presdocs/2009/DCPD-200900458.pdf>

¹⁶ See: Site-scoping Report - Opportunities for application of the Marine InVEST tool in British Columbia and California, Jodie Toft, March 31, 2009, 49 pgs.

¹⁷ <http://news.stanford.edu/news/2009/january7/moore-010709.html>

Chan, UBC, Dr. Phil Dearden, UVic, Dr. Rosemary Ommer, UVic, Dr. Martin Taylor, Ocean Networks Canada, Tom Roemer, VP Technology Camosun.

6. August 2009 thru January 2010, discussions and work with WWF-Canada to understand the EBM Roadmap project being led by WWF-Canada for the ENGO Network. PacMARA was asked to coordinate a peer review of the draft EBM Principles and Elements and EBM Assessment Framework of this project. These pieces of the project are relevant to this Challenge Dialogue and have been contributed to this discussion.
7. September 3, 2009 Feedback on EBM Knowledge Gaps project with Neil Davis, DFO Oceans and Steve Diggon, Coastal First Nations on consideration of PNCIMA concerns with the marine EBM Gaps Project.
8. October 13, 2009 Presentation to the Chamber of Shipping with confirmation of interest in being kept informed of progress with the marine EBM Gaps Project.
9. November 16, 2009 marine EBM Gaps project information session with the BC ILMB and BC Environment with confirmation they would participate as Champions to the Project.
10. November 30, 2009 Conference call with DFO representatives confirming the marine EBM Gaps project is potentially valuable to them and will take part along with other regulatory authorities in both providing oversight and planning the effort.
11. December, 2009. Bill Wareham submitted a recently prepared work by the David Suzuki Foundation on behalf of the BC ENGO Marine Planning Caucus that further defines the marine EBM Assessment piece of the marine EBM Implementation component, called the “Conservation Objective Options for the Pacific North Coast Integrated Management Area (PNCIMA) Marine Spatial Planning Process”.
12. January 25, 2010, Process Champions meeting to comment on Dialogue content and finalize process.

INPUT REQUEST #2: Please review the BACKGROUND STATEMENTS and provide your response in writing in the accompanying Feedback Form.

Consider — Do you agree with the statements? Which ones do you disagree with and why? What other important information or perspectives are missing that would help inform the challenge we are addressing? What other ideas did the statements spark in your mind? Please refer to the background statement number in your response so we know which one you are referring to.

5 Expected Outcomes

The following outcomes are expected from this Dialogue

1. A common understanding of marine EBM.
2. Identification and characterization of the current status of marine EBM Framework components and their interactions.
3. Dialogue around the main components developing a shared strategy with approach to address issues and opportunities in the marine EBM Framework.
4. Recommendations to various interests, on the potential for working collaboratively to capitalize on shared opportunities.

INPUT REQUEST #3: Please review the EXPECTED OUTCOMES and provide your response in writing in the accompanying Feedback Form.

Consider — *Are these outcomes useful contributions to advancing EBM practice? Are there any others you would like see accomplished? What expectations do you have for the face-to-face Workshop — as in “I would consider the Workshop a success if...”*

6 Assumptions¹⁸

The following assumptions marine EBM on Canada’s Pacific Coast have been provided to stimulate and provoke the Dialogue conversation. With your EBM related work or with reference to your understanding of EBM have you been operating under these assumptions?

6.1 Assumptions Related to Marine EBM Governance and Management

1. Fisheries and Oceans Canada has a reasonably sound legislative framework with enough focus on integrated management to address the challenges of oceans conservation and protection, and the increased risks and potential conflicts resulting from new oceans uses.
2. Under the authority of the Oceans Act, the Department of Fisheries and Oceans (DFO) has the lead role and is responsible for coordinating federal policies and programs

¹⁸ Note that by definition an Assumption is an unproved starting point or something that is believed to be true without proof. Assumptions reflect their source and some could be viewed as opinion. For this Dialogue, PacMARA has synthesized this list of Assumptions from a number of sources with the intent to initiate comment and start dialogue.

- related to oceans. This is a challenging task, considering 29 other federal government departments, agencies and other organizations are involved in the oceans sector through policies, programs, services, regulation and/or procurement responsibilities that are not always coordinated or integrated.
3. An improved management structure; including policy, regulation and associated tools (such as zoning designations, targets, quotas, etc.) would help set the frame for operationalizing marine EBM. This might in part address the following statement from the Background, which is still true today: "In September 2005, the federal Commissioner of the Environment and Sustainable Development¹⁹ found that DFO "had great difficulty moving from this conceptual definition [of integrated oceans management] to practical implementation" With reference to three management areas, including the Pacific North Coast, the Commissioner noted that progress had been slow and recommended that DFO improve operational guidance on integrated management."
 4. The implementation of the Oceans Act to address the challenges of oceans conservation and protection is a major undertaking in the light of increasing demands on ocean resources and services. It has been recognized in successful land-based implementations of EBM that a collaborative approach to governance, management structure, processes, tools and more complete information and knowledge may be required to address this challenge.
 5. The current position of the Province of BC respecting PNCIMA participation is that of an interested observer.
 6. In a number of marine planning venues, First Nations, through various instruments, have negotiated agreements or understandings with other governments providing a workable governance role in the marine EBM planning processes.
 7. The marine and ocean sector contributes significantly to the BC economy (7-8% of the BC economy²⁰) because we use it for fishing, shipping, boating, tourism, energy resource development, marine defence industries and oceans related manufacturing and services. It could contribute even more if its potential were fully realized, for energy production and marine tourism as example.
 8. Canada's Pacific Coast is well along in meeting its conservation needs with approximately 2 million hectares already under some form of protection.

6.2 Assumptions Regarding Challenges and Opportunities with Marine EBM

9. A Quote: "I am not sure the case for EBM is effectively made- the plan seems to assume that this is an accepted way forward, everyone agrees on what it is all about, and that

¹⁹ Canada, Commissioner of the Environment and Sustainable Development. 2005. *Report: Chapter 1: Fisheries and Oceans Canada – Canada's Oceans Management Strategy*.

²⁰ Economic Contribution of the Ocean Sector in British Columbia. Prepared for the Canada/British Columbia Oceans Coordinating Committee by GS Gislasen and Associates, et al. April 2007.

- the task is just putting things in place. We all know this is not the case- everyone talks the talk (even though they probably all have different definitions or understandings of the concept) but hardly anyone walks the walk despite the Oceans Act and policy statements advocating an ecosystem approach.”
10. Confidence in, and acceptance of marine EBM as a means of arriving at impartial, science driven options or solutions is a controversial topic in large part because no standard definition or management framework has been defined and agreed upon by all key parties.
 11. To be effective the marine EBM process must be scalable, and the scales nested (e.g. coast-wide to PNCIMA to Haida Gwaii to community to bay). No matter where the decision is made or the action is undertaken the marine EBM process should be able to show implication/impacts up and down the scale.
 12. For marine EBM to be effective, mechanisms must be in place making effective use of available marine science and traditional marine knowledge and for identifying critical knowledge gaps and effectively leveraging existing resources (data, science and traditional knowledge) to address the gaps.
 13. Land based EBM has been successfully applied in the Central and North Coast and Haida Gwaii, and although the model may be different in marine efforts such as the Pacific North Coast Integrated Management Area (PNCIMA) there are surely lessons to be learned and best practices to be adopted.
 14. If practitioners were able to agree on how to frame the marine EBM environment (social, economic, biological, and cultural) by putting definition to EBM components it would go a long ways to building the trust of stakeholders and acceptance in the process.
 15. It will be necessary for marine EBM to in some manner explicitly address sustainable economic opportunities to both support households and strengthen communities if there is to be acceptance in marine EBM and trust in the approach among stakeholders.
 16. Funding and resources would help address some of the issues/challenges faced in effectively delivering marine EBM.
 17. Please reflect on the assumptions underlying the following quotes made by a stakeholder:
 - a. “In reality, science and scientific work goes on as it always has- we manage mostly on a single species basis and while considering some aspects of the ecosystem, really do not employ an EBM approach. Indeed, science and managers have yet to agree how to do this and agencies like DFO do things the way they always have.”

- b. “There is huge competition between stakeholders and user groups and it is very difficult to get people to agree how to work together, develop trust, explore new approaches or abandon old ways. Decision-makers and regulators try their best to base decisions on good science but are always under pressure from those who extract benefits or fear loss of access or entitlement. Commercial users, recreational users, First Nations and environmental groups have difficulty finding common ground. Science and information may be used or miss-used to make a point or achieve an objective. In the face of all that, the public and those concerned about the environment don't know what to make of the often conflicting positions or statements (sea lice and salmon stock status, fish farming impacts, are perfect examples of this dilemma).”

6.3 Assumptions Regarding Marine EBM Tools and Information

18. EBM can refer to a range of tools and approaches that may be applied in the accounting and management of consequences and interactions of multiple human activities on coupled ecological, economic and social systems. These tools and approaches range in their mode of application or zoning from exclusive protected zones (e.g. MPAs) through to multiple user group areas. EBM approaches should not be aligned with restrictive or exclusive management practices and, when correctly applied, should work towards common goals across sectors.
19. A quick search of the internet confirms a myriad of tools that could be applied to the marine EBM process, so many such that knowing which tools to use is very challenging and time consuming for the practitioner. The practice of marine EBM on Canada's Pacific Coast would be greatly enhanced if a standard toolset tailored to Canada's Pacific Coast was defined.
20. More effective ways of leveraging science or research into the EBM decision making process would help address delays in filling knowledge gaps.
21. There is a lot of marine data and information being maintained by various agencies, groups and individuals in various platforms and in different locations.
22. Existing marine data and information resources are currently not being used effectively in marine EBM planning processes.
23. A common directory to marine data, information and knowledge resources with ubiquitous and convenient access would ensure more effective use of available resources.

INPUT REQUEST #4: Please review the ASSUMPTION STATEMENTS and provide your response in writing in the accompanying Feedback Form.

Consider — Are you in alignment with these Assumptions? If not, which ones do you disagree with and why? What other key Assumptions need to be added that are missing? Please refer to the assumption number in your response so we know which one you are referring to.

7 Initial Ideas, Critical Questions and Works in Progress

This section raises some questions focused on developing a common language defining marine EBM. It will table some previous work for your consideration and present some other initial ideas for establishing a common language that could be used to frame the marine EBM environment.

7.1 Developing a Common Understanding of Marine EBM

The following material on “Beginning to Develop a Marine EBM Framework for BC” is designed to initiate the dialogue to start to better understand marine EBM in BC and to develop a model, or framework, of the EBM process. A marine EBM framework will provide the beginnings of a common language for the practice of marine EBM in BC. A common language helps to:

- Foster effective communication with the range of interests involved;
- Facilitate learning and exchange among practitioners from differing disciplines and backgrounds;
- Provide a framework against which lessons learned and best practices can be captured and organized;
- Recognize where practitioners fit into the overall marine EBM process, strengthening relationships and fostering collaboration.

The intent of a framework for marine EBM is to provide a holistic view of the entire EBM process identifying all of the components that make up marine EBM. Once the framework is populated to capture the current status of each component it provides the necessary information to undertake a marine EBM Gap Analysis. It will assist in identifying what gaps exist with policy; process; management systems; people, skills and training; analysis and information products;

access infrastructure; and data. It also provides an effective tool to determine what organizations, or groups, and what people should be working with each other to identify and address gaps in the framework.

The components are linked and for marine EBM to work effectively as a management process in support of policy development and on-site decision making each component needs to be functioning effectively.

7.2 Beginning to Develop a Marine EBM Framework for BC

To effectively model, or develop a framework for marine EBM in BC to provide a common language that will foster effective communication between governments (including First Nations governments), stakeholders and practitioners, dialogue should start with an understanding of the current marine EBM situation. This would start with the identification, characterization and current status of the key components comprising the marine EBM process and their relationships.

As a next step, dialogue around the main components of the marine EBM framework would focus on issues and opportunities in the current framework that if addressed would further marine EBM implementation and practice and advance our common understanding of marine EBM and further refine the framework.

A table (see Table 1) will be used to initiate the dialogue to form a common understanding of marine EBM and to build the marine EBM framework. The key components comprising the marine EBM process are identified across the top of the table with the questions down the side.

Note: It is recognized lack of funding or resources underlie many of the issues/challenges faced in effectively delivering marine EBM. In terms of solutions discuss the options or solutions those funds or resources would address, as well as other opportunities for improvement.

7.3 Critical Questions

Referring to the Table below, and the key Marine EBM Components, please provide responses to the following questions:

- Question 1. For each component for which you are intimately familiar describe what currently exists within or comprises that component? The intent is to get a current picture of what exists today.
- Question 2. For each component for which you are intimately familiar what are the key issues or opportunities in that component that if addressed would enable you to be more effective in your job? What would be some options to address those issues or opportunities?
- Question 3. Considering the other components that you link to or are supported by, what issues or challenges do you face in working with them and how might those concerns be addressed? Which need to be addressed first?

Please provide your response to the following broader set of questions on marine EBM as well.

- Question 4. To leverage these first steps in developing a common understanding of marine EBM and developing a marine EBM framework what components are missing and what should be the next steps?

- Question 5. Overall what do you view as the major issues or challenges facing adoption and implementation of marine EBM on Canada's Pacific Coast? What would be some options to address those concerns?

Table 1: Beginning to Develop a Marine EBM Framework for BC

	Key Marine EBM Components					
	Legislation/Policy	Planning/Plans	Implementation: Management	Implementation: Instruments/Tools	Data/Information	Science/Research
Question 1						
Question 2						
Question 3						

Component Descriptions:

Legislation/Policy: Current legislation and policy that defines marine EBM and informs marine EBM planning and implementation.

Planning/Plans: Current plans and the process that created them, that drive current marine EBM implementations.

Implementation:

Management: The practice of marine EBM based management (including monitoring and assessment of outcomes).

Instruments/Tools The regulatory and practice mechanisms including enforcement options, protection options, etc.

Data/Information: Data based decision support services addressing the information product needs of the marine EBM process.

Science/Research: Science and research based support for addressing the knowledge and tools needs of the marine EBM process.

7.4 Works in Progress

A number of studies, some still works-in-progress, are being tabled with this Dialogue for your consideration. They are listed below. They can be used to help identify and address gaps or weaknesses in the marine EBM framework.

- a) **Marine EBM Principles and Elements; and Assessment Framework** (Hussein Alidina, WWF – Canada, November 2009) - A work in progress providing in part a “common language” for the Policy piece of the EBM Expression component and the EBM Assessment piece of the EBM Implementation component.
- b) **Marine Ecosystem Based Management Knowledge Gaps Study** (Jaqueline Booth, September 2009) - A work in progress identifying key knowledge gaps in support of marine EBM. These would be used to define a science and research agenda in support of marine EBM on Canada’s Pacific Coast. The focus of this work are the two key supporting or enabling frameworks:
 - the information value chain; and,
 - the science/knowledge paradigm.
- c) **Assessment of Current Barriers to Inter-Agency Data Integration** (Synetric Consulting Group, June 2007– A recently completed background document identifying issues in the Data Management component of the Information Value Chain.
- d) **Assessment of Current Information to Support the Oceans Strategy** (LGL Limited/Archipelago Marine Research Ltd, September 2007– A recently completed assignment that helps to define Data Collection Acquisition component of the Information Value Chain.
- e) **Integrated Ocean Information Management System, Agency Information Systems – Recommendations and Final Report** (Sierra Systems, January 2008) – A recently completed study that provides options for addressing some key issues in the Information Access and Delivery component of the Information Value Chain.
- f) **BC’s Ocean & Coastal Strategy: An Overview** (BC MOE, November 2009) – A recently completed statement of the Province’s potential involvement in Ocean and Marine. It identifies some potential scope to the EBM Expression component as relates legislation, policy and planning.
- g) **Conservation Objective Options for the Pacific North Coast Integrated Management Area (PNCIMA) Marine Spatial Planning Process** (David Suzuki Foundation, December 2009)– A recently completed work prepared by the David Suzuki Foundation on behalf of the BC ENGO Marine Planning Caucus that further defines the EBM Assessment piece of the EBM Implementation component.

- Question 6. Do you have any comments on the studies that you are aware of with respect to their usefulness for both identifying and addressing marine EBM framework gaps?
- Question 7. What other recently completed works, or works-in-progress are you aware of that should be leveraged in terms of identifying and/or addressing gaps in the marine EBM Framework?

INPUT REQUEST #5: Please review and answer the CRITICAL QUESTIONS from the perspective of your involvement in EBM and provide your response in writing in the accompanying Feedback Form.

Consider — In addition to your answers, what other questions should we be asking regarding the development of common understanding of marine EBM. Please refer to the question number in your response so we know which one you are referring to.

8 Next Steps

The above material establishes a starting point for the Dialogue. Please consider this information as “a work in progress.” Following are the next steps in the Dialogue. Please note the deadline for receiving your feedback.

1. Please consider what has been presented in this Challenge Paper carefully and contribute your reactions electronically using the separate **Feedback Form** sent along with this Challenge Paper. **Your input is very important and will strongly influence the success of the Dialogue and Workshop.**
2. **Please send your feedback to info@pacmara.org by February 19, 2010.**
3. PacMARA will use the Challenge Paper feedback to help design the 2-day Workshop (March 9th and 10th at the Institute of Ocean Sciences) and inform the development of a Workshop Workbook. The Workbook, which includes an agenda, will be distributed to you in electronic form a few days ahead of the workshop.

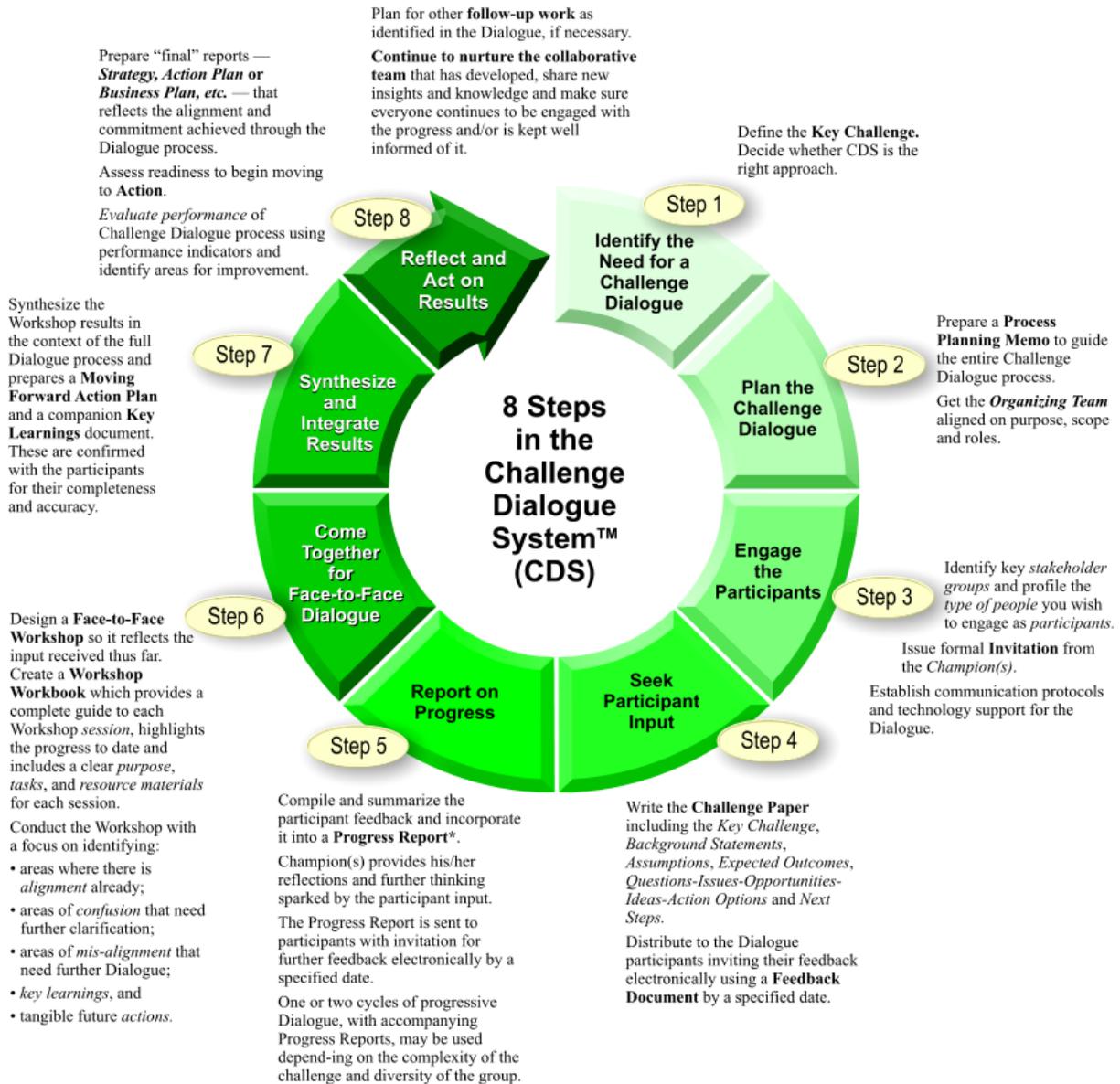
INPUT REQUEST #6: Do you have any questions regarding the NEXT STEPS. Do you have any other questions or comments you would like to share?

Many thanks for your anticipated contribution!

9 Appendix 1: Marine EBM Reference Materials

1. Useful definitive and descriptive information on EBM can be found at the following sites:
 - a. <http://www.marineebm.org/index.htm> which focuses on both tools and case studies related to marine EBM.
 - b. <http://www.seaweb.org/resources/Ecosystem-basedmanagement/SeaWeb--Ecosystem-basedManagementHome.php> which focuses on marine EBM providing both information and tools.
 - c. <http://www.ebmtools.org/> which provides an EBM tools database.
2. Informative books on marine EBM include:
 - a. Ecosystem-Based Management for the Oceans by Karen McLeod and Heather Leslie
 - b. Marine Spatial Planning - A Step-by-Step Approach toward Ecosystem-based Management by Intergovernmental Oceanographic Commission.
 - c. Ocean and Coastal Ecosystem-Based Management: Implementation Handbook. Environmental Law Institute, 2009. Copy available at: http://www.elistore.org/reports_detail.asp?ID=11350

10 Appendix 2: Challenge Dialogue – 8 Steps



* Note in **Mini-Challenge Dialogues** the process may be truncated whereby elements of the Progress Report are integrated directly into the Workshop Workbook session materials. See Step 6.