

EBMWG Adaptive Management Framework Development Request for Proposals: Background Information

Government-to-Government agreements

In February 2006, following Government-to-Government discussions based on consensus land use recommendations developed with the involvement of forest companies, environmental groups, local communities, and other stakeholders, the provincial government and First Nations announced land use decisions for the Central and North Coasts of British Columbia. These decisions included a commitment to the full implementation of Ecosystem-Based Management (EBM) by March 31, 2009, defined as

...an adaptive, systematic approach to managing human activities, guided by the Coast Information Team EBM Handbook, that seeks to ensure the coexistence of healthy, fully functioning ecosystems and human communities.

The twin goals of EBM are:

- 1. Ecological Integrity:** Maintain ecological integrity, where ecological integrity is a quality or state of an ecosystem in which it is considered complete or unimpaired; including the natural diversity of species and biological communities, ecosystem processes and functions, and both the ability to absorb disturbance (resistance) and to recover from disturbance (resilience).
- 2. Human Well-Being:** Achieve high levels of human well-being, where human well-being is a condition in which all members of society can determine and meet their needs and have a large range of choices and opportunities to fulfil their potential.

See Appendix I for a more detailed definition of “full implementation of EBM” developed following the land use decisions.

Adaptive Management Scope

General

Government-to-Government agreements define adaptive management as:

a systematic approach to resource management that engages the Parties and stakeholders in structured, collaborative research and monitoring with the goal of improving land and resource management policies, objectives and practices over time. Adaptive Management is a component of EBM and includes passive and active management approaches.

The Adaptive Management system that the EBMWG develops is intended to address both human well-being and ecological integrity objectives outlined in land use documents. This includes undertakings that are not strictly a part of land use plans but that aim to improve human well-being on the coast (and thus meet objectives set out in land use planning documents), such as conservation financing and other economic development initiatives.

Legal objectives

An initial suite of forestry management requirements (based on Schedule F of agreements between the Province and KNT First Nations, and Schedule B of agreements between the Province and Turning Point Coastal First Nations) has been formalized into land use objectives legalized for the Southern Central Coast in July of 2007, and for the rest of the Central Coast and the North Coast in January 2008. These objectives include specific references to adaptive management, in some cases allowing licensees to adopt alternate management strategies if they undertake specific requirements, one of which is an adaptive management plan “to monitor environmental impacts during any primary forest activity”.

Therefore, in addition to addressing the broader scope of adaptive management outlined above, the EBMWG’s adaptive management framework will need to provide guidance, tools, or templates for licensees on how to develop and implement an adaptive management plan to “monitor environmental impacts during any primary forest activity”, and how to integrate monitoring and results among multiple licensees. These tools thus need to create consistency between adaptive management plans and enable the roll-up of information from individual licensees in order to improve information at a regional scale.

The two sets of land use objectives are available at

<http://ilmbwww.gov.bc.ca/lup/lrmp/coast/cencoast/objectives/index.html>.

Objectives 8, 10, 11, 12, 13, and 17 in each set of objectives contain specific references to adaptive management plans.

Related EBMWG projects completed

To date, the EBMWG has completed several projects related to the development of an Adaptive Management Framework:

Implementation partners workshop

A workshop was held in July of 2007 to engage EBM implementation partners in a dialogue on adaptive management, with the intent of informing subsequent discussions on the detailed design of the AM framework, and helping to ensure the long term success of the initiative. The workshop had three specific objectives:

- To build a common understanding about adaptive management:

- To get concrete input on key elements of the framework
- To clarify roles and opportunities in implementation

The key outcomes of the workshop are summarized in Appendix II. It became clear at the workshop and through subsequent discussions that many implementation partners view an Adaptive Management Framework as a decision-making process rather than as a framework to structure learning in order to improve decision-making. The EBMWG is actively working to communicate with implementation partners to clarify this difference, and is developing relevant projects to clarify decision-making processes separately.

Land Use Plan (LUP) summary

Two consultants developed a detailed compilation and summary of all of the objectives, strategies, and indicators listed in the 12 Government-to-Government agreements, two sets of LRMP recommendations, various related guidance documents, and draft land-use objectives (which have since been modified and finalized) that apply to the Central and North Coast area. The Land Use Plan summary accomplishes a key first step in the development of an Adaptive Management Framework by listing all objective, strategies, and indicators in coastal land-use plans and agreements in a summary form that identifies correspondence between objectives and strategies. Strategies are presented as a target level of an implementation indicator. Many HWB objectives have no corresponding strategies identified in land use planning documents

The LUP summary includes a set of concept maps that outline relationships among the objectives and implementation indicators in the land use documents.

As a result of this work, the EBMWG adopted a set of common definitions of AM terminology, which are included in Appendix III.

The LUP summary can be downloaded at:

http://ilmbwww.gov.bc.ca/lup/lrmp/coast/cencoast/docs/Coast_Land_Use_Plan_Summary_Revised_Close_out_Draft_Sept_24_2007.pdf

Schedule C and G indicators

The EBMWG commissioned a report on human well-being indicators in order to refine the list of indicators that are included in Schedules C and G of Government-to-Government agreements (which are a subset of the human well-being objectives and indicators summarized in the Land-Use Plan summary). The report includes a substantial review of the human well-being literature, and the existing indicator frameworks in Canada. The report also provides a full suite of human well-being indicators and recommended changes to the indicators in Schedules C and G. The draft report was reviewed in a workshop with a group of implementation partners before it was finalized.

The final report is available at:

http://ilmbwww.gov.bc.ca/lup/lrmp/coast/cencoast/project_reports.html.

Adaptive Management Workshop

In November 2007, a technical workshop brought together experts in adaptive management, ecological integrity, and the study of human well-being in order to provide recommendations on how the EBMWG Adaptive Management framework should be developed. The results of this workshop will provide critical core guidance for the successful proponent on the current RFP. The workshop summary is posted as an attachment to the RFP and is also available at

http://ilmbwww.gov.bc.ca/lup/lrmp/coast/cencoast/docs/workshop_summary_report_200802.pdf.

Related EBMWG projects underway

The EBMWG is also completing other projects that will directly support its adaptive management program and need to be integrated into the AM framework that is developed. They include:

Economic development inventory

A project is underway to produce an inventory of existing and planned community and regional economic development initiatives intended to contribute to improving the Human Well Being (HWB) of communities on the Central and North Coast. This project partially addresses the gap identified in the LUP summary that although the various land use planning documents identify a number of objectives related to human well-being, they do not identify specific strategies to achieve the objectives. The inventory project will summarize economic development strategies that are currently being undertaken in the region.

Data management system

The EBMWG is currently working with the Integrated Land Management Bureau (Ministry of Agriculture and Lands) to compile and consolidate data in order to fill EBMWG data needs over the short term. Over the long-term, the EBMWG will develop broader access to data required for coastal EBM implementation, using a data management system that will allow users the flexibility to upload data. The data management system development will be informed, in part, by recommendations developed as a part of the AMF design project.

Experimental watersheds

A project is being considered that would identify potential experimental watersheds where active adaptive management experiments could be carried out.

EBM forestry pilots summary

Over the past 7 years there have been several attempts (EBM Pilots) by Forest Licensees and First Nations to “operationalize” aspects of EBM as described in the EBM Handbook. The purpose of this project is to document these efforts in terms of the objectives, implementation actions, results, monitoring provisions and associated documentation so they can contribute to information resources in an adaptive management context as well as to the selection of areas for ongoing AM planning.

Ecological current condition analysis

This project will provide (1) a formal, peer reviewed status report on the current condition of key ecological indicators on the central and north coasts (2) a dataset and template for ongoing updates to this information. Indicators to be considered include

- Ecosystem types (site series surrogates)
- Focal/fine filter species habitats (e.g. grizzly bear, mountain goat, marbled murrelet, northern goshawk, tailed frog)
- Landform features (e.g. wetlands, estuaries etc.)

Human well-being baseline and targets

This project will assess the indicators recommended by the Schedule C and G indicators project described above with respect to the relative effectiveness of the indicators in measuring human wellbeing at multiple levels (e.g. community and region), and the cost and practicality of collecting baseline data using them. The project will then collect baseline data using the indicators and recommend a methodology and/or rationale for setting targets for these indicators.

Decision-making structures

This project will develop a detailed description of the EBM decision making system and the decision support tools and procedures that can be applied within it to inform decisions regarding “flexibility” and reconciliation of competing objectives, strategies and targets. The description will provide examples of how different types of decisions are addressed within the system from the strategic through to the operational.

EBMWG website

The EBMWG has its own website and related listserv that is used to communicate with EBMWG members and other parties involved in EBM implementation.

Other related initiatives

FREP

The Forest and Range Evaluation Program (FREP) is an evaluation program designed to assess the effectiveness of British Columbia's new results-based Forest and Range Practices Act and Regulations. Established in 2003 under the direction and guidance of British Columbia's Chief Forester, FREP's goal is to help ensure the sustainable management of the Province's forest and range resources. This goal is accomplished through ongoing monitoring and evaluation practices conducted primarily through the Ministry of Forests and Range, in partnership with the Ministries of Environment, Tourism, Sport and the Arts, and the Integrated Land Management Bureau. See <http://www.for.gov.bc.ca/hfp/frep/index.htm> for more information.

EBM Learning Forum

The Coastal First Nations Turning Point Initiative is facilitating a regional learning network, called the EBM Learning Forum, to build a strong understanding of EBM at a local and regional level among land use practitioners (land use planners, resource managers, foresters, technicians, etc). The EBM Learning Forum offers workshops, field trips and other learning opportunities. Through these events, participants will share their own EBM experiences and outside resource people with specific expertise will be invited on an as needed basis.

Institutional and Decision-making Context

The formal institutional and decision-making context for coastal land use implementation is outlined below. The institutional context continues to evolve, and each of the groups may choose to do implementation monitoring of its own activities.

Provincial and First Nation Governments

- Provincial and First Nation governments collaborate to implement land use decisions in accordance with their laws, customs and traditions.
- Provincial resource agencies are responsible for implementing land use objectives and other Provincial decisions according to their legislative mandates (e.g. *Land Act*, *FRPA*, *Wildlife Act*, *Park Act*) and to monitor implementation and effectiveness.

Land and Resource Forums (LRFs)

- The LRFs make recommendations to the Provincial and First Nations governments on the further development of EBM and implementation of land use decisions.
- The LRFs provide support to First Nations in implementing land use decisions in their traditional territories.
- The LRFs cooperate on issues related to implementation of land use decisions, including overseeing the work of the EBM WG and providing advice on the recommendations of the NC and CC PIMCs.

EBM Working Group

- Develops recommendations on EBM research priorities and on the application of research results to the implementation of EBM.
- Oversees research related to uncertainties or knowledge gaps in EBM implementation.
- Coordinates and manages EBM-related data and analysis.
- Develops and coordinates the implementation of a coastal adaptive management framework

Central and North Coast PIMCs

- Monitor and evaluate implementation of the land use plan
- Advise the Province and First Nations through the LRFs on implementation strategies, revisions and issue resolution after assessing social impacts.

Other implementation partners

Other potential users of the EBMWG's adaptive management framework include individual First Nations; government agencies (e.g. Ministry of Forests and Range, Ministry of Environment, Ministry of Agriculture and Lands [Integrated Land Management Bureau]); coastal communities; forest tenure holders (companies and BC Timber Sales); Environmental Non-Governmental Organizations; and universities or other groups involved in research and monitoring activities.

Appendix I: Full Implementation of EBM definition

**Definition of
"Full Implementation of Ecosystem Based Management ("EBM") by
March 31, 2009"**

The members of the of the Joint Land and Resource Forums have agreed, through the *Land and Resource Protocol Agreement* and the *Strategic Land Use Planning Agreement-in-Principle (the "Government-to-Government Agreements")*, to achieve "full implementation of EBM by March 31, 2009". The purpose of the document is to define what is meant by the phrase "full implementation of EBM by March 31, 2009".

This phrase includes two components that require definition: (1) "EBM" and (2) and "full implementation".

The following definitions of these two components provide a framework for achieving full implementation of EBM by March 31, 2009, subject to the completion of government to government discussions arising from the Government-to-Government Agreements and the completion of Detailed Strategic Planning activities, informed as appropriate by the EBM Working Group and Plan Implementation Committees.

Ecosystem Based Management

For the purposes of the Central and North Coast Land and Resource Management Plan areas, EBM is defined in the Government-to-Government Agreements between the various First Nations and Province of British Columbia as:

"...an adaptive, systematic approach to managing human activities, guided by the Coast Information Team EBM Handbook, that seeks to ensure the co-existence of healthy, fully functioning ecosystems and human communities;"

Full Implementation

"Full implementation" of EBM by March 31, 2009 will be achieved once the following are in place:

1. Governance Framework

A governance framework that provides an adaptive land use and resource management regime. The framework will include:

- a) government-to-government collaborative arrangements (i.e. FN-BC Land and Resource Forums, FN-BC collaborative management agreements); and
- b) structures and processes for ongoing collaborative and/or consultative stakeholder involvement, including the Plan Implementation Committees and the EBM Working Group.

2. Human Well-Being

Socioeconomic policies and initiatives that seek to achieve a high level of human well-being¹ over time, including:

- a) CIII management and funding mechanisms in place (Coast Economic Development Society Coast and Coast Conservation Endowment Fund Foundation);
- b) Coast Sustainability Trust renewed;
- c) regional economic development policies and initiatives that seek to maintain diversified and viable businesses (forestry, tourism, mining); and
- d) capacity building and management/technical training programs.

3. Ecological Integrity

Conservation measures, including components of integrated Detailed Strategic Plans, that seek to achieve a low level of ecological risk² overall in the Central and North Coast, over time, including:

- a) strategic land use zones (conservancies, biodiversity etc) and, as appropriate, related management plans;
- b) landscape reserves (FN cultural areas, OGMAs, UWRs, GWMs); and
- c) land use objectives (cultural, biodiversity, hydroniparian, wildlife, etc.), based on review and revision of the initial suite of legal objectives

4. Adaptive Management

A collaborative adaptive management system, informed by recommendations of the EBM Working Group and the Plan Implementation Committees, that will support the further development and implementation of EBM beyond 2009, including:

- a) a system for monitoring and evaluating ecological integrity and human well-being;
- b) an independent research and inventory and data management system; and
- c) a decision support/analysis system.

¹ Current agreed upon guidance regarding what constitutes "high level of human well-being" is found in Government-to-Government Agreements and the Coast Information Team EBM Handbook; however this guidance is subject to change through consideration of other information, further research and adaptive management.

² Current agreed upon guidance regarding what constitutes "low level of ecological risk" is found in the Coast Information Team EBM Handbook; however the ecological indicators in the EBM Handbook are subject to change through consideration of other information, further research and adaptive management.

5. Flexibility

Consistent with provisions in the Government-to-Government Agreements, a suite of flexibility tools that can be used to facilitate transition and sustain First Nation and local community well-being in the Central/North Coast³, including:

- a) strategic planning flexibility – i.e. developing and implementing integrated Detailed Strategic Plans that enable management to varying levels of ecological risk in different watersheds and landscapes;
- b) operational flexibility – i.e. in particular management situations, applying risk-managed management objectives and practicability tests, guided by criteria defined in land use objectives and related policies and guidance documents; and
- c) decision variance – i.e. where strategic planning and operational flexibility are insufficient, developing a land use objective that allows for a higher level of resource development activity in specific landscapes and watersheds for a specific period of time.

³ Use of the suite of flexibility tools will be consistent with the structures and processes for ongoing collaborative and/or consultative stakeholder involvement developed as part of the EEM Governance Framework.

Appendix II: Partner Implementation Workshop Summary

Context:

The EBM Working Group (EBMWG) held a one-day Partner Implementation Workshop on Adaptive Management on July 19, 2007. The workshop included representatives from First Nations, Industry, Communities, Conservation, and Government, and included members from the EBM Working Group, the Plan Implementation and Monitoring Committees (PIMCs), and the Land and Resource Forums (LRFs).

The workshop provided participants with information about adaptive management frameworks (AMF) and solicited their input and feedback regarding the design of the adaptive management framework for the Central Coast and North Coast plan areas.

Perspectives Shared:

Elements of Success

- The adaptive management framework must have low barriers to its use. It must be useful for informing both government and private decisions and it must be low cost.
- Participants stated that it is important to make AM meaningful and useful for communities who will use the information. It has to be designed to serve the end users.
- It was acknowledged that there is room for both academics and local people to contribute knowledge including First Nations (FN) local traditional knowledge.
- It was reiterated that the most important stakeholders are the people who live in the plan area, the large majority of which are First Nations.

Challenges

- It was noted that there are different views and that all partners in the process may think from different levels and have different perspectives. Some people are worried about losing jobs, but in some First Nation communities there are no jobs to lose (75% unemployment). It was acknowledged that First Nations are approaching AM from a different viewpoint.
- Researchers who may be studying the area and making recommendations usually do not live in the communities and may not know what is needed to enhance human well being (HWB) there. If we want FNs to buy into the recommendations it must fit with what is happening in FNs communities.

- Participants discussed the challenge that arises when there are differences between quantitative statistical information, and community perceptions of human well being.

Scope

- It was agreed that some issues will have to go government-to-government (G2G), and others will have to be done outside of government. There are non-regulatory company and business issues. An AM model will have to capture both elements to be useful.
- Participants considered whether to focus only on land use decisions or include other non land use plan (LUP) issues related. It was recognised that HWB issues are affected by more than just LUPs.
- Participants discussed developing a practical AMF suitable for application to a range of issues. Two options were identified: (1) Design a tool that can be used in a number of ways or; (2) Design an AMF that intentionally addresses agreements and plans as they exist today and focuses on issues that are most amenable to AM within these agreements and plans
- Consider how EBM AM can apply to sectors other than forestry.
- Participants want to see an AMF design that creates value for full EBM decisions that need to be made by March 2009.

Design

- It was acknowledged that there are insufficient resources to monitor every single element of all the plans and agreements. It was reiterated that structured learning is an important component of AM. It is important to have a good baseline. It is not possible to learn from just gathering information in isolation. .
- The participants stressed that the scale of planning is important. Participants want the framework to speak to the integration of geographic and temporal scales.
- Governance arrangements: There are institutional arrangements (collaborative governance arrangements) and existing initiatives to work with.
- Consider efficient mechanisms for change that will allow decision-makers to react quickly to changing conditions. Consider what triggers a review of existing state.
- Participants discussed the importance of determining whose well-being we are talking about. Is it First Nations, non-FN, workers, non-area residents, companies, etc?
- Participants stated that they hope AM puts in place criteria that will lend themselves to AM for specific questions where there is high uncertainty and relevance. AMF does not have to be layered on everything. But AMF can have criteria around how to choose the appropriate questions to answer.

- Participants expressed the importance of doing due diligence before designing experiments to ensure there is no duplication of research.
- Participants discussed that some projects will be well suited to community monitoring and management – a project lead could be identified right in the community. This will minimise transportation costs, engage people in productive and interesting activities, build capacity in the communities, and bring local traditional knowledge to the project, while building the scientific knowledge of local participants.
- Participants discussed the challenges of predicting what is important to a community. It was recognised that it is important to ask communities what significant indicators they want monitored.
- Participants discussed the separation and coordination of roles for the PIMCs and the EBMWG including the distinction between the roles of implementation monitoring, which is a role of PIMCs, and effectiveness and validation monitoring, which is role of the EBMWG. The coordination role is important, and it is currently being done by the EBMWG. It was recognised that different forms of monitoring need to be coordinated.
- AM steps should be designed to integrate easily into a planning process. Some elements should be developed from the bottom up and some may come from the top down.
- When designing the AMF, it was suggested that capacity issues and funding concerns be considered. These are a barrier for effective participation and consultation. Funding support has to be there. Who will pay for AM?

Specific Recommendations from participants for the next steps:

- First Nations should be involved in the framework design
- Implementation partners should be involved in prioritising monitoring projects
- Identify priority issues for consideration, clarify roles and responsibilities, build in triggering mechanisms
- “All roads lead to the communities” – engaging communities is key for buy-in, success and participation.

Appendix III EBMWG LUP Summary Terminology – Draft for Discussion – May 15, 2007

Goal	Goals are overarching “ends”. They are broadly stated, and not necessarily quantifiable or measurable. They should be clarified and supported by a set of more specific objectives. Indicators are not generally mapped directly to goals.
Objective	Objectives are specific ends that must be achieved in support of a goal. They clearly define both an end and a preferred direction, but do NOT prescribe a target. Ideally, a set of objectives will collectively describe all the components that have to be addressed in order to address a goal. Objectives are measurable via indicators and each objective should have an indicator mapped directly to it.
Sub-objective	In some cases, objectives can be further divided into components. In this case, a set of sub-objectives should collectively describe everything that’s important to address with respect to a given objective, and indicators are mapped directly to the sub-objectives.
Indicator	Indicators are metrics for reporting progress toward objectives or sub-objectives. Progress can be either predicted/modeled or measured/actual.
Implementation Indicator	Indicators (metrics) that are linked to (and affected by) management strategies – they report the extent to which management strategies are implemented.
Effectiveness (Primary) Indicator	Indicators (metrics) that are linked directly to reporting change or expected change in the objectives – they report the extent to which the strategies are effective in influencing the objective. They are the primary indicators to be considered when assessing progress/performance.
Secondary (Explanatory) Indicator	Secondary indicators that report things that are not necessarily important in and of themselves, but that help to explain trends observed in other (primary) indicators. They can be useful for learning/validation but should not be used to assess performance.
Strategy	The “means” that have been adopted or are being considered for achieving the ends. That is, the actions that can be implemented to achieve or influence the objectives (as reported by the indicators). Strategies could be stated with reference to an indicator and a specified quantitative level for the indicator.
Target	A specific quantitative state of an indicator associated with a strategy that is either under consideration or has been adopted.
Threshold	A specific quantitative state of an indicator at which there is a change in rate of response.
Benchmark	A specific quantitative state of an indicator that represents a meaningful point of comparison for a true (or estimated) indicator value. Examples of benchmarks include

	baseline condition, a condition in a neighbouring jurisdiction, a natural or pre-disturbance condition, etc.).
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