Adaptive Management Framework for the Central and North Coast of British Columbia

Research Priorities for Human Well Being

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Final Report
Prepared for the Ecosystem Based Management Working Group
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This report was commissioned by the Ecosystem-Based Management Working Group (EBM WG) to provide information to support full implementation of EBM. The conclusions and recommendations in this report are exclusively the authors', and may not reflect the values and opinions of EBM WG members.

Introduction

Land use planning objectives and strategies / indicators designed for the implementation of EBM on the Central and North Coast have been clearly defined through regional planning studies and negotiations for the domain of ecological integrity, but not for human well-being. Much of the initiative for human wellbeing planning, particularly in the focal areas related to land and resource management, rests with communities themselves and their economic development agencies and partners. Planning for cultural heritage resource stewardship, for economic diversification, more effective local use of resource tenures, enterprise development, employment and other kinds of social development is closely related to local priorities, and community organizational initiatives. There are many initiatives of this type underway on the Coast. However, the structure of regional Land Use Objectives does not capture these very clearly.[1]

This means that it is not practical to adopt the same structure for prioritization of HWB adaptive management issues as for ecological integrity. Instead, we present two parallel approaches to the question of prioritizing human wellbeing research and monitoring issues. The first looks at general regional priorities for investments that would support integration of human wellbeing into EBM implementation. The second provides a more detailed, community-level, examination of the narrower set of objectives included in the HWB illustrative Knowledge Summary. This second approach is analogous to that used for ecological integrity and would be appropriate once planning tasks have been completed or documented.

Part 1: Recommended adaptive management priorities for Human Well-being

The highest priority for adaptive management for Human Well-being is to clarify planning and knowledge of relationships between objectives and strategies. Much of this work has already been done, and exists in a variety of formats, some documented and some not. There are many economic development and cultural initiatives underway on the Coast already, all of them with different kinds of feasibility assessments and strategic plans. As planning for HWB objectives is formalized (tourism strategy, shellfish aquaculture, community forestry, cultural development, etc) and there is a desire to incorporate this work into ongoing implementation of EBM, these can be framed for adaptive management.

The main tasks are listed in the checklist below. These will be familiar to managers and resource planners already (and the connection to adaptive management is illustrated in Fig. 3 of the Adaptive Management Guidebook[2]). For reasons discussed in the Guidebook, it is helpful for HWB objectives to have indicators both for objectives as well as for implementation of strategies. Indicator data identified in the baseline indicators study[3] focuses on available measures of general socio-economic status, or of some broad objectives, but in most cases data

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[1] The broad and ill-defined nature of human well-being goals and objectives at the regional level may also be a deliberate reflection of the difficulty of gaining strong consensus on specifics between different community groups.
[2] See the companion document: Adaptive Management Guidebook.
[3] Sheltair Group. Ecosystem Based Management Human Well Being Indicators 2006 Baseline Report – Draft. August 2008.

are not available at the community scale where strategies will be implemented and objectives subject to political accountability. While socio-economic results are likely to be obvious in small communities, managers can use enterprise or operational data to produce most indicators required.

In addition to planning requirements, the checklist suggests preparation of a knowledge summary for objectives of interest to local managers. This exercise should not be onerous as it has probably already been largely accomplished in the planning stage, but it provides a good opportunity for collaboration and social learning to incorporate information from a variety of knowledge holders (see illustrative examples in Knowledge Summary[4] Part 2, and related guidelines[5]).

Table 1: Checklist for priority adaptive management preparatory actions[6]

	Clarify each objective in local terms • Related to G2G agreements? • Linked to a baseline indicator? • Propose new indicator and data collection if needed.
	Identify scale of collaboration • Are objectives and strategies shared between communities? Across sub-regions? • Establish collaborative mechanisms for planning and shared learning
	Identify feasible strategies (actions) for each objective • Propose quantitative or qualitative implementation indicators
	Collect data, or estimate value, for implementation indicators: what is the current situation?
	Set targets: what is the desired future level of implementation for each strategy?
	Predict the effect on objective of implementing each strategy • Estimate effects at different levels of implementation • Estimate uncertainties
	Discuss and summarize key factors relating strategies to each objective and related uncertainties (format: Knowledge Summary). • Prepare special study; or • Consult government, academic or private sector experts; or • Convene a meeting of small number of knowledge holders; or • Convene a larger workshop to review or draft material.

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[4] See the companion document: Knowledge Summary for Adaptive Management
[5] Guide to Knowledge Summary and Prioritization Procedure
[6] see the Glossary of Terms in "Guide to Knowledge Summary and Project Prioritization Procedure"

Completion of the recommended priority adaptive management measures above should result in local knowledge summaries analogous to the illustrative human wellbeing Knowledge Summary produced as part of the Adaptive Management Framework report. Many of the benefits of adaptive management are premised on the interaction required to generate and update the knowledge represented in the Knowledge Summary.

Part 2: Hypothetical application of prioritization procedure

In this section we use the illustrative human wellbeing Knowledge Summary[7] and its contents to demonstrate how priorities can be set using the Prioritization Procedure[8].

The questions presented below are organised in sections based on the objectives listed in the illustrative knowledge summary. Each section identifies the objective, lists the indicators (derived from strategies) that influence achievement of the objectives, lists the priorities for different types of monitoring (implementation, effectiveness and validation) and finally lists potential research and monitoring questions based on the hypothetical information in the Knowledge Summary. A listing of priorities for each objective and strategy is presented in a companion spreadsheet (HWB Monitoring Priorities Dec 19.xls).

The reader is reminded that these recommended monitoring and research studies are hypothetical only, based on illustrative Knowledge Summary content, and have not been verified for accuracy by knowledge holders.

List of monitoring and research questions

Objective: Strengthen First Nations' knowledge of cultural and traditional resources

Indicators:
1) Extent of documentation of traditional knowledge
2) Investment in community cultural programs
3) Classroom hours devoted to FN cultural knowledge in schools

The first indicator has high priority for data collection to determine the current extent of documentation. Current level of indicator #3 can be estimated in consultation with teachers.

All three of these strategies have high priority for validation monitoring and research (probability of success is moderate with high uncertainty). The factors relating these strategies to the achievement of the objective may not be well understood. All three strategies have medium priority for effectiveness monitoring. The strategies may not be effective in contributing to achievement of the objective. Alternative strategies may exist. Studies could be undertaken to examine, for example:

- What kinds of documentation are most relevant, accessible and useful to First Nations in maintaining and strengthening their knowledge of cultural and traditional resources?
- What factors encourage participation in community cultural programs, when these exist?
- How do users successfully integrate their traditional knowledge and customs with contemporary lifestyles? Can aspects of those experiences be shared and taught?

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[7] see part 2 of "Knowledge Summary for Adaptive Management"
[8] See the companion document: "Guide to Knowledge Summary and Project Prioritization Procedure".

- What are practical classroom tools to integrate First Nations cultural knowledge into other aspects of the curriculum?
- Evaluation studies of the results of each strategy and its effectiveness in contributing to the overall objective of strengthening systems of cultural knowledge.

Objective: Improve access to cultural and traditional resource harvesting sites

Indicator: investment in access infrastructure

High priority for validation monitoring (i.e. uncertainty is high)

Moderate priority for effectiveness monitoring

The provision of better infrastructure may not succeed in improving access to traditional resources. Potential questions include:

- Comparative studies of use for sites that have different degrees of infrastructure (trails, landings, cabins).
- Evaluation of programs to improve infrastructure: has site use increased? Who are the new users?
- Studies of barriers to site use independent of infrastructure (fuel costs, equipment, time, etc).

Objective: Increase use of cultural and traditional resources

Indicator: number of community events featuring traditional foods

High priority for validation monitoring (i.e. uncertainty is high)

Moderate priority for effectiveness monitoring

Community celebrations typically feature traditional foods anyway. Increasing the number of these events including such foods may not result in strengthening the demand or interest in them. Potential questions could include:

- Longitudinal studies of food consumption at community events and in selected households.
- Who consumes traditional foods at community events?
- How is food choice moderated by economic factors? Tastes and preferences? Knowledge of preparation or harvesting?

- Evaluation of impacts of community feasts on tastes and preferences of community members.

Indicator: investment in cultural objects

High priority for effectiveness monitoring.

Even with high investment in cultural objects for ceremonial, community and domestic uses, the increased use of cultural and traditional resources, and the contribution to sustaining these resources over time, may be small. Evaluation studies are needed to confirm the impact and effectiveness of this strategy.

Objective: Increase community revenues and employment from shellfish aquaculture

Indicators:
1) Predation control measures
2) Effort devoted to communications with community
3) Proportion of staff trained

High priority for validation monitoring.

Moderate priority for effectiveness monitoring.

The potential impact of predators on shellfish aquaculture is not known, although it is known that predators occur naturally in the area. Studies are needed to scope this problem under production situations. What are typical levels of predation? Which predators are problematic? What are effective control measures?

Other questions related to implementing shellfish aquaculture:
- What is the relationship between communications effort and other social factors (community solidarity, trust, conflict management skills, etc) in building positive impressions of shellfish aquaculture?
- How do communications efforts affect the motivation or interest of employees? The support of the community?
- How does staff training affect motivation and attrition rates?
- Given the available training programs and expected job requirements, is there a pool of qualified and interested candidates?

Objective: Increase revenues and employment from tourism

Indicators:
1) Range of complementary services offered
2) Number of mooring pennants close to services

High priority for validation monitoring.

For both of these strategies, the relationship between the level of implementation and the impact on the overall objective is poorly understood and may be highly dependent on external factors. Complementary services, for example, are reliant on other tourist operations to draw clients in the first place. Mooring pennants generate little revenue on their own, but also offer only limited prospects of additional demand for services because most yachts in these waters are highly self-reliant. Some relevant questions include:

- What kinds of simple services would be most appealing to short-term visitors?
- How can the community add value to those services and capture it from visitors who are willing to pay?
- What kinds of payment systems are reliable and have low overheads?

Moderate priority for effectiveness monitoring

- Evaluation studies of results from implementing strategies.