

23 October 2003

# SUMMARY REPORT

## WORKSHOP ON LARGE MARINE ECOZONE BOUNDARIES IN ATLANTIC CANADA

*Friday, 12 September 2003  
Main Auditorium  
Bedford Institute of Oceanography  
Dartmouth, Nova Scotia*

### **INTRODUCTION**

Michael Butler, chair of the Atlantic Coastal Zone Information Steering Committee (ACZISC), welcomed participants. He stated that, at a meeting at BIO on 28 February, the ACZISC Secretariat had been asked by a group of federal personnel from DFO, EC, NRCan and Parks to:

- organize this Workshop, with the aid of a Steering Committee consisting of Tim Anderson, DFO NL; Joe Arbour and Tim Hall, DFO Maritimes; and John Legault, DFO Gulf; Larry Hildebrand, EC; Gordon Fader and Vladimir Kostylev, NRCan/GSCA; and Rob Thompson, Parks Canada. The Steering Committee specifically requested that the participants be restricted to federal and provincial government personnel.
- prepare a background briefing document for distribution to the Workshop participants prior to the Workshop. Mike acknowledged the assistance of Scott Coffen-Smout and his colleagues at the DFO/OCMD, Gordon Fader and Vladimir Kostylev, NRCan/GSCA, Larry Hildebrand, EC and Francine Mercier, PC, for their review of the document.
- prepare a workshop report, including recommendations.

Mike, chair of the Workshop, reviewed the Workshop objectives and rationale:

**Workshop Objectives:** To review the criteria and rationale taken by DFO, EC, NRCan and Parks Canada, and other governments and agencies, to define and delineate large marine ecoregions, to assess differences and commonalities and to define, if possible, common spatial planning frameworks

**Workshop Rationale:** Managing Canadian waters is a multi-jurisdictional responsibility. The identification of common ecozone boundaries by the responsible jurisdictions would appear to be logical and have several practical advantages,

including: spatial planning/zoning; environmental assessments; planning for marine protected areas; and research priorities.

A roundtable introduction of participants followed (refer to list of participants on page 8).

The provisional agenda was reviewed and revised to include a presentation by Bob O'Boyle, DFO Maritimes. The agenda is attached on page 10.

## **RECOMMENDATIONS**

Based on the presentations (refer to page 3) and discussions/next steps (refer to page 6), the Workshop participants made the following recommendations:

1. The federal natural resource departments should adopt a common large marine ecoregion framework and associated classification system for Canada. Benefits would include the tangible expression of federal intention and ability to build a shared foundation for Integrated Management, and a positive 'public perception' of coordination within the federal government.
2. Future discussions must clearly distinguish between the identification of ecoregions (of any geographic size) based on scientifically credible data and ecological principles from that of 'management zones' that delineate areas of the sea and/or coastline created specifically for management purposes. Such zones may or may not conform to ecoregions, but the relevant management jurisdiction(s) must be cognizant of them when delineating a new management zone or substantiating an extant one.
3. The 'line' that delineates an ecoregion should be considered as a 'zone of transition' and not a firm line of demarcation, such as an administrative boundary.
4. The parameters used to assess the boundaries of ecoregions should be a balance of geophysical, biological and oceanographic data, with a consideration of the 'human' factor.
5. The marine ecoregion boundaries should 'align' with the current land ecoregion boundaries, where possible.
6. Federal natural resource departments should consider the acceptance of the Parks Canada delineation of large marine ecoregions in Atlantic Canada following their re-assessment using new data and information. GIS technologies can now be utilized to analyze and 'weight' the evaluation criteria. Funding from the federal natural resource departments will be required.

7. A glossary of relevant terms associated with marine ecoregion boundary delineation should be prepared to facilitate effective inter-disciplinary communication.
8. The national DFO initiative on Ecoregion Delineation Criteria should be expanded to include other federal natural resource departments.
9. The DFO Ecoregion Delineation Criteria Workshop being organized this fall-winter should be an interdepartmental event.
10. The Provinces should be invited to participate in ongoing discussions.
11. Upcoming conferences such as the OMRN Conference in November 2003 in Ottawa and the CZC '04 Conference in June 2004 in St. John's should be used to further and focus the debate.

## **PRESENTATIONS**

The following is a summary of key points made during the presentations and subsequent discussions:

### **ENVIRONMENT CANADA**

Larry Hildebrand, Manager of the Sustainable Communities and Ecosystems Division, reviewed his Division's responsibilities and activities. He briefly discussed EC's initial effort to map large ecoregions in Atlantic Canada.

Larry stated the following:

- There is an urgent need for a common set of large marine ecozones, which would be a 'logical' geographic extension of the existing land classification system, to enable integrated management and planning.
- Many initiatives in the region in which EC is involved have active participation from multi-stakeholder groups. These coalitions are often watershed-based. Examples include the Atlantic Coastal Action Program (ACAP), the Bay of Fundy Ecosystem Partnership (BoFEP), the Gulf of Maine Council on the Marine Environment (GoM) and the Southern Gulf of St. Lawrence Coalition on Sustainability (SGSLCS).
- From the public's perspective, the federal resource departments appear to be inept because of the lack of consensus re large marine ecozones.
- There is a need to include the 'human dimension' in the criteria used to identify marine ecozones.

## **FISHERIES AND OCEANS CANADA, NEWFOUNDLAND AND LABRADOR REGION**

Tim Anderson reported the following:

- Marine ecosystems were addressed in a discussion paper prepared by a DFO NL Working Group. The criteria selected by the Group for identifying marine ecosystems include: biophysical, administrative and human impacts.
- The Working Group recognized that there is a need to move quickly to identify 'management areas' to allow integrated management.
- An internal Large Ocean Management Area (LOMA) workshop was organized. The use of NAFO boundaries as a building block for LOMAs was recommended based on the availability of scientific and statistical data.
- The NAFO boundaries are based on the presence or absence of various commercially important species that is related, among other factors, to their biology.
- A national DFO Working Group on Ecosystem Objectives was established in 2000 to address the need for LOMAs.

## **FISHERIES AND OCEANS CANADA, MARITIMES REGION**

Joe Arbour reviewed spatial planning for integrated oceans and coastal management in DFO, including:

- DFO's legislative and policy mandate: the Oceans Act, Canada's Oceans Strategy, and the Integrated Management Framework
- the purposes for ecozones and related drivers, e.g., economic, social, cultural
- regional applications, e.g., the Eastern Scotian Shelf (ESSIM) initiative.

Joe added:

- DFO's interest in large marine ecozones and LOMAs is driven within the context of the Oceans Act and the Oceans Strategy.
- Part of DFO's effort is to bring fish management in line with integrated ocean management plans.
- A key question for participants: Is there a shared ecological foundation?

## **FISHERIES AND OCEANS CANADA, GULF REGION**

John Legault reported the following:

- DFO Gulf Region is dealing with issues related to the management of the southern Gulf of St. Lawrence, including:
  - determining if the Region should be classified as a LOMA, a Community-based Management Area, or a Coastal Management Area
  - selecting the criteria to subdivide the Region. The primary criteria seems to be the bottom topography since it appears to determine the flow of energy through the system which in turn affects the sediment and bottom type which in turn supports the biota in and above it.
  - how to subdivide it, *i.e.* carrying selection criteria from small to the large geographic areas. As the scale becomes more refined and approaches the coast, the socio, cultural and economic factors would become more significant factors.
- The needs of the 'clients' (fishers and the public) in the Region must be taken into account.

## **FISHERIES AND OCEANS CANADA, MARITIMES REGION**

Bob O'Boyle reported the following:

- In June 2000 the DFO National Policy Committee established a Working Group on Ecosystem Objectives (WGEO). The WGEO has identified 19 proposed LOMAs in Canada based on broad criteria: ecology, pragmatism, and management considerations.
- A DFO Ecoregion Delineation Criteria Discussion Group has been established this year (2003) to identify the ecological criteria for identifying ecoregions. The co-chairs are Camille Mageau (Director, Marine Ecosystems Conservation Branch) and Howard Powles (Director, Biodiversity Science Branch, Ottawa). Discussions to date have focussed on the nature of ecosystem boundaries, the link between ecoregions and LOMAs, classes of criteria and availability of data and information.
- The work of the DFO Ecoregion Delineation Criteria Discussion Group should be consistent with that of other Departments.
- A DFO Ecoregion Delineation Criteria Workshop will be organized this fall-winter. Camille Mageau and Howard Powles are the organizers.
- **The Briefing document prepared for this Workshop will be forwarded by Bob to Howard and Camille for their information.**

## **NATURAL RESOURCES CANADA, GEOLOGICAL SURVEY OF CANADA ATLANTIC**

Gordon Fader focussed his presentation on 'Subdividing the Scotian Shelf: A Geoscience Rationale for Zoning'. He reported the following:

- The main role of the GSCA is the provision of geoscience expertise in support of ocean management. The agency is keenly interested in the process of marine ecoboundary delineation.
- There are critical definitions associated with marine ecoregions and zoning, *e.g.*, physiography, geomorphology, physiographic province. **He suggested that a list of definitions be prepared to facilitate effective communication.**
- Criteria for the selection of marine ecoregions include: topography/relief, biology, geology, temperature, currents, atmospheric conditions, juridical, special places (geotypes). Human activity is connected to both topography and biology.
- There is a unique relationship between large geographic zones and physiographic features and concepts.
- A great deal of geophysical data is available for the Scotian Shelf and the Grand Banks but less so for Labrador and the Gulf of St. Lawrence.
- The detailed data can be 'aggregated up' and applied to large areas.
- Gordon proposed a system for dividing the Scotian Shelf that integrates bathymetry, geology, dynamics and temperature. It is a template that could be applied to other offshore areas.

## **PARKS CANADA**

Francine Mercier described the process that led to defining the boundaries for PC's 29 marine regions across Canada, including the Great Lakes. She reported the following:

- The purpose of the marine regions is to assist Parks Canada to select national marine conservation areas representative of each of the regions.
- Research to identify the boundaries began in the 1970s and 1980s. The boundaries are largely based on ecological, physical and biological criteria, but not exclusively. Political and pragmatic factors were also taken into consideration.
- A consensus approach was used by Parks Canada staff and other marine experts in multi-disciplinary workshops to determine the boundaries.
- The marine regions are identified in Parks Canada's National Marine Conservation Areas System Plan, Sea to Sea to Sea, approved by the Minister in 1995.
- Over the years there have been minor adjustments to the boundaries based on new information.
- Parks Canada does not have the option of changing the number of marine regions, *i.e.*, 29. However, it is open to changing the boundaries if new scientific information can justify such revisions.

## ***DISCUSSION and NEXT STEPS***

Joe Arbour: It is important to recognize past experience and iterations and not go back to square one. Parks Canada's work in the 1980s was the beginning point. This work evolved further in the 1990s. A 1994 report of the MEQ Advisory Group entitled "Marine Ecological Classification System for Canada" is a further refinement of the Parks Canada work. It followed the same process to arrive at consensus – expert workshops, etc. **Bob O'Boyle asked for a copy of the report to take to the upcoming meeting of the Ecoregion Delineation Criteria Discussion Group. Joe will make a copy available.**

Larry Hildebrand: Can the participants agree on the need for a comprehensive marine ecozone framework for multi-ocean use and the need for 'fuzzy' boundaries? The participants were in agreement.

Mike Butler: Do the participants agree that DFO should be encouraged to make the DFO Ecoregion Delineation Criteria Workshop, being organized this fall-winter, an interdepartmental event? The participants were in agreement.

Tim Hall: Other appropriate vehicles for moving forward on a comprehensive marine ecozone framework include the national MPA Working Group (PC, EC and DFO) and the federal Interdepartmental Committee on Oceans and its Working Groups. The Committee is composed of 23 Deputy Ministers; Larry Murray, DFO DM, is the chair. The agenda for a meeting of the Committee that is being organized is probably still open; Christine Loth, A/Director, Oceans Directorate, Ottawa, is the contact. **Tim will contact Christine**

Joe Arbour added that there might be a role for the Oceans Task Group of the Canadian Council of Ministers of Fisheries and Aquaculture re provincial input. **Justin stated that he would follow up with Greg Roach, the NS rep on the Task Group.**

Mike Butler: The upcoming OMRN National Conference scheduled for 13-15 November in Ottawa and the Coastal Zone Canada 2004 Conference in St. John's Newfoundland (27-30 June) are other opportunities to promote this topic.

Larry Hildebrand stressed the importance of a land/water connection when identifying the marine ecoregion framework.

John Legault suggested that the Parks Canada boundary information be input into a GIS and analyzed.

Francine Mercier explained that the report/maps were only available in hard-copy format. **Francine volunteered to have the document scanned in PDF format for posting on the ACZISC website, if appropriate. Mike Butler agreed that the ACZISC would do this.** However, participants recognized that they did not currently have the resources to commit for the analysis of the Parks Canada boundary information.

Justin Huston: If the federal Interdepartmental Committee on Oceans and other groups are interested in moving forward on this issue, they will make resources available.

Tim Hall suggested that the Interdepartmental Committee on Oceans was the appropriate body to move this issue forward. He recommended that the federal departments approach the Committee. **Tim will bring this up with the Committee.**

**Joe Arbour stated that he would carry the message to the Regional Interdepartmental Committee on Oceans and to the Oceans Sector, DFO Ottawa.**

Mike Butler stressed the importance of participants following through internally within their departments. He also noted that academia and the private sector have a significant interest in the ecozone boundary delineation process and can provide a great deal of expertise.

Justin Huston stated that this process would take time and would require flexibility.

## **WRAP-UP**

Mike Butler thanked the participants for their contribution to the Workshop. He stated that a draft Summary Workshop report would be prepared and distributed to participants for comments/revisions, etc. by 19 September 2003.

The Workshop was adjourned at 1500 hrs.

## **WORKSHOP PARTICIPANTS**

Tim Anderson  
Fisheries and Oceans Canada,  
NL Region  
Tel 709-772-2852  
Fax 709-772-5315  
Email andersont@dfo-mpo.gc.ca

Joe Arbour  
Fisheries and Oceans Canada,  
Maritimes Region  
Tel 902-426-3894  
Fax 902-426-3855  
Email arbourj@mar.dfo-mpo.gc.ca

Michael Butler  
ACZISC Secretariat  
Tel 902-494-1977  
Fax 902-494-1977  
Email mbutler@dal.ca

Scott Coffen-Smout  
Fisheries and Oceans Canada,  
Maritimes Region  
Tel 902-426-2009  
Fax 902-426-3855  
Email coffen-smouts@mar.dfo-mpo.gc.ca

Gordon Fader  
Natural Resources Canada  
Geological Survey of Canada Atlantic  
Tel 902-426-2159  
Fax 902-426-4104  
Email fader@agc.bio.ns.ca

Tim Hall  
Fisheries and Oceans Canada,  
Maritimes Region  
Tel 902-426-4116  
Fax 902-426-3855  
Email halltj@mar.dfo-mpo.gc.ca

Larry Hildebrand  
Environment Canada  
Tel 902-426-2131  
Fax 902-426-6348  
Email larry.hildebrand@ec.gc.ca

Justin Huston  
NS Department of Agriculture and  
Fisheries  
Tel 902-424-2996  
Fax 902-424-1766  
Email hustonje@gov.ns.ca

Stan Johnston  
Fisheries and Oceans Canada,  
Maritimes Region  
Tel 902-426-7730  
Fax 902-426-3855  
Email johnstonsk@mar.dfo-mpo.gc.ca

Sean Kelly  
National Defence, Trinity  
Tel 902-427-0550 (ext. 2505)  
Email kelly.se@forces.gc.ca

Claudette LeBlanc  
ACZISC Secretariat  
Tel 902-494-1977  
Fax 902-494-1334  
Email leblancc@ca.inter.net

John Legault  
Fisheries and Oceans Canada, Gulf  
Region  
Tel 506-851-6221  
Fax 506-851-3027  
Email legaultj@dfo-mpo.gc.ca

Richard Mayne  
National Defence, Trinity  
Tel 902-427-0550 (ext. 2505)  
Email mayne.ra@forces.gc.ca

## **WORKSHOP PARTICIPANTS (cont'd)**

Francine Mercier  
Parks Canada  
Tel 819-997-4916  
Fax 819-994-5140  
Email francine.mercier@pc.gc.ca

Bob O'Boyle  
Fisheries and Oceans Canada,  
Maritimes Region  
Tel 902-426-3526  
Fax 902-426-5435  
Email oboyler@mar.dfo-mpo.gc.ca

Kyle Penney  
National Defence  
Tel 902-427-8622  
Fax 902-427-5417  
Email penney.k2@forces.gc.ca

Gary Rockwell  
Fisheries and Oceans Canada  
Canadian Hydrographic Service, Atlantic  
Tel 902-426-2432  
Fax 902-426-1893  
Email rockwellg@mar.dfo-mpo.gc.ca

Carol Ann Rose  
Fisheries and Oceans Canada,  
Maritimes Region  
Tel 902-426-3694  
Fax 902-426-6767  
Email rosec@mar.dfo-mpo.gc.ca

Rob Thompson  
Parks Canada  
Tel 902-426-3445  
Fax 902-426-4659  
Email rob.thompson@pc.gc.ca

## **WORKSHOP AGENDA**

- 0915-0930 **Introduction** by Michael Butler, Workshop Chair
- 0930-1050 **Presentations and Discussion**
- 0930-0950 EC: Larry Hildebrand
- 0950-1010 DFO NL: Tim Anderson
- 1010-1030 DFO Maritimes: Joe Arbour
- 1030-1050 DFO Gulf: John Legault
- 1050-1110 **Break**
- 1110-1130 DFO Maritimes: Bob O'Boyle
- 1130-1150 NRCan/GSC: Gordon Fader
- 1150-1210 Parks Canada: Francine Mercier
- 1210-1300 **Lunch at BIO Cafeteria**
- 1300-1400 **Discussion of rationales, methodologies, commonalities, differences and uses**
- 1400-1500 **Recommendations, Identification of next steps and Wrap-up**