Pacific North Coast Integrated Management Area (PNCIMA) Initiative

Ecological Valued Ecosystem Components (VECs) Workshop

Workshop Summary

November 30, 2011
Delta Vancouver Airport Hotel
Richmond, BC

CONTENTS

Summary

The PNCIMA initiative is a collaborative planning process that will develop an integrated ocean management plan by December 2012. The plan will reflect a balanced approach to oceans management, with objectives for respecting the economic, social, and ecological health of the region. The plan is intended to: a) set a broad context for management in the area and identify priorities, b) facilitate coordination of management planning processes, and c) inform other marine planning initiatives.

The PNCIMA planning process is structured to pursue a risk-based approach to the identification of PNCIMA-scale ecosystem priorities that may warrant closer management attention. The first step in this risk-based approach is to identify the valued ecosystem components (VECs) that will serve as the base units for risk assessment. VECs may be ecological, socioeconomic, or cultural in nature.

A workshop to explore methods for identifying Valued Ecosystem Components (VECs), and to consider information available to inform the development of ecological VECs in PNCIMA was held by Fisheries and Oceans Canada (DFO) on November 30, 2011 in Richmond BC, following the seventh meeting of the PNCIMA's Integrated Oceans Advisory Committee (IOAC), which took place on November 29. Approximately 40 people attended the workshop, including members and alternates of the IOAC, scientists, and provincial and federal government managers and planners. A follow-up workshop on socioeconomic and cultural VECs is to be held early in 2012.

The workshop objectives were to:

1. build understanding of the concept of VECs;
2. identify information available that can inform the development of VECs in PNCIMA;
3. review strengths, limitations, and gaps in the information available;
4. review different methods used in the identification of VECs and explore their applicability to PNCIMA planning; and
5. identify lessons learned from other experiences with VECs.

A series of presentations from Fisheries and Oceans Canada, the Province of BC, and the BC Marine Conservation Analysis provided workshop participants with an overview of the PNCIMA ecosystem, as well as highlights of various approaches to identifying valued ecological ecosystem components. Presenters also spoke to lessons learned from employing each of the different approaches.

Key Discussion Points

The second part of the workshop was structured as a panel discussion, with dialogue between invited experts and all other workshop participants, around the themes of "Information" and "Methods". Key points identified by DFO at the end of the workshop from the discussion around each of five guiding questions associated with these themes are summarized below. These key points should be understood as take away messages DFO has identified rather than a reflection of agreement among participants, which was neither intended nor sought. More

detailed discussion notes reflecting a fuller range of participant perspectives are included in section 3 of this document.

1. Information

What other information is available beyond that presented this morning that is relevant to the identification of VECs for PNCIMA?
There are little additional data to be considered that have not been taken into account by existing initiatives such as the Ecologically and Biologically Significant Areas work, the BC Marine Conservation Analysis, baseline information gathering for major project proposals, and provincial work on valued marine ecosystem features. However, these initiatives are often asking different questions of the information or using different methods of valuation. Efforts should be focused on synthesizing what is relevant to PNCIMA from this existing information rather than on gathering additional information. Potential sources of relevant existing information beyond those identified by workshop presenters include: environmental assessments, Regional District data sets, traditional ecological knowledge, and local knowledge.

What are the strengths, limitations, and gaps in the information that has been identified?
Strengths and limitations are inherent in all information sources, and the relevance of the strengths and limitations will depend on the types of questions we are seeking to answer with this information. The important thing is to make best use of the information and explicitly acknowledge its limitations and any assumptions made, while trying to improve on available information moving forward. Traditional knowledge and local knowledge were identified as gaps in the information identified by workshop presenters that should be addressed.

What are some of the lessons learned in the use of this information to inform decision making beyond those outlined in the presentations this morning?
While a lot of information exists, planning should proceed in a way that allows for what is not known. Strategies for this include using fuzzy/flexible boundaries when identifying areas as VECs, and incorporating mechanisms for updates and adaptation as learning occurs over time.

2. Methods

What is the applicability of different methods for identifying VECs in PNCIMA planning?
The EBSAs will serve as one starting point for identifying PNCIMA ecological VECs, recognizing that (a) there are other important sources of information and (b) more than a spatial approach to identifying VECs should be considered over the longer term.

What steps/measures can be taken to incorporate existing information on potential VECs generated by different projects/methods for the purposes of PNCIMA planning?
VECs identified by other projects or methods should be compared with the EBSAs to identify any additional VECs relevant to PNCIMA planning. Areas identified as important by several projects or methods should be noted. Where different areas are identified, this can be an avenue for exploring assumptions, strengths, and limitations of different methods for identifying VECs.

1. Introduction and Background to the PNCIMA Initiative

Neil Davis, Fisheries and Oceans Canada

What are VECs?

- VECs describe places, elements or processes that are significant from a PNCIMA ecosystem perspective.
- They can be economic, cultural, or ecological in nature.
- VECs are intended to serve as the base units for risk assessment.
- VECs may also serve as inputs to MPA network planning.
- There is much existing work to draw from in identifying VECs.

How Do VECs Fit into a Risk-Based Approach to Marine Planning?

They are the fist step in a risk-based approach:

1. Identify what's important (VECs)
2. Develop pathways of effects:
    a) Identify activities occurring within VECs.
    b) Determine stressors associated with activities.
    c) Determine effects of stressors on VECs.
3. Perform a risk assessment on these effects to scope priorities that may require further attention.
4. Consider relevant policies & regulatory tools for addressing unmitigated risks to VECs.

Questions and Discussion:

At this point in the planning process, the provisional objectives are still draft. Referring to PNCIMA goals may be useful when considering VECs.

VECs for PNCIMA should be kept to a larger scale (e.g. kelp ecosystems), rather than values that are more specific to a local scale.

2. Presentations on Available Information Relevant to VECs for PNCIMA

PNCIMA Ecosystem Overview

Jim Irvine, Fisheries and Oceans Canada

PNCIMA Ecosystem Features

- PNCIMA is one of the most ecologically diverse marine environments in the world.
- The region is subject to upwelling in summer months and downwelling in winter months.

Trends

- Temperatures have been cooler than average in PNCIMA over the last 2 years. This is typical of La Nina years.

- El Nino brings warmer ocean waters to the region.
- Downwelling winds were stronger since the mid 1990s than in previous decades.
- Timing of spring plankton blooms in Queen Charlotte Sound has been varying (generally earlier) and appears to influence the survival of certain birds and young salmon.
- Herring biomass is below harvest cut-off levels in Haida Gwaii and on the Central Coast.
- Rockfish are at low levels of abundance. Some are now listed as species at risk.
- Odd year Pink salmon are doing well, while Coho and Chinook doing relatively poorly over 60 year period. Even year Pink stocks are not doing as well.
- Marine mammals in the region include: baleen and toothed whales as well as seals, sea lions and sea otters. Historical whaling impacts are still being felt.

Note: the State of the Ocean report for PNCIMA will be available from DFO in a couple of weeks, summarizing this information in more detail.

Questions and Discussion:

The PNCIMA environment is constantly changing over time. It is important to keep the big picture in mind and to differentiate between human activities and natural factors that may influence the ecosystem when considering enhanced management for VECs.

There have been changes to pH levels in the ecosystem that are affecting the base of the food chain. There is no long term data on pH in PNCIMA, however the expectation is that the problem is a deep water issue. At this point, there is not much that can be done about ocean acidification. Lower oxygen areas also tend to have lower pH.

Trend data can help to forecast in some cases, which may help with adaptive management considerations (e.g. DFO uses oceanographic indicators to forecast salmon abundance). There will always be variability within trends.

BC's Approach to Valued Ecosystem Components

Doug Biffard, Province of BC

The Provinces of BC adopts a two tier approach to identifying VECs:

1. **Coarse scale** (representativity) – considers major ecosystems, characteristic habitats, communities and cultural heritage values of each marine ecosection.

2. **Fine Scale** (special features) – considers things like rare and endangered species, and outstanding fragile cultural features.

The Province's approach uses representation (planning on landscape levels). Their classification system is hierarchical. Rarity is an expression of how common a particular unit is across a landscape. It is measured by number of polygons and size. Diversity refers to the count of viable discreet units within a study area.

Questions and Discussion:

The Province developed individual prescriptions for planning units due to the inherent weakness of a generic zoning approach to accurately account for variations in human activity, future opportunities and underlying physical and biological attributes, and because they were concerned that zoning wouldn't provide necessary details to operate effectly. These prescriptions were developed for spatial planning units developed within specific marine planning exercises. Marine eco-units were used to define spatial planning units, as one element of the process. Zoning was overlaid afterwards ("post-zoning").

BC Marine Conservation Analysis – Identifying Marine Areas of High Conservation Value on the BC Coast

Karin Bodtker, BC Marine Conservation Analysis

Areas of high conservation value were identified using a systematic conservation planning approach, with the Marxan decision support tool.

Marxan Method:

Step 1: Define objectives, goals, constraints
Step 2: Delineate study area into planning units
Step 3: Create database of features
Step 4: Record amount of each ecological feature in each planning unit
Step 5: Set targets (controversial step)
Step 6: Define scenarios/analyses (set of parameters to define a problem)
Step 7: Run Marxan (calibrations)
Step 8: Review, and assess results

The result of the Marxan method is a set of areas/units that meet a set of targets (amount of features) within spatial representation.

To establish targets, the BCMCA hosted a series of expert workshops, where experts were invited to:

- Establish a wish list of features;
- set recommend target ranges (i.e. how much of each feature is required to meet set objectives);
- list best available data;
- develop recommendations on data processing; and
- list data gaps/limitations.

Questions and Discussion:

Each BCMCA Marxan planning unit has information about benthic classes. Marxan uses this to pick out representative habitats.

The results of Marxan analysis show places, but it is important to remember that places change over time. Marxan is based on static information. PNCIMA may want to consider how to accommodate fluctuations over time into the analysis.

Socio-economic data generally isn't presented at as fine a scale as ecological information (e.g. human use is more broad scale), however Marxan can be used to look at both types of data together.

Identification of Ecologically and Biologically Significant Areas in PNCIMA

Glen Jamieson, retired from Fisheries and Oceans Canada

EBSAs are evaluated by:

- uniqueness (rarity);
- aggregation (species are aggregated for some part of the year – e.g. spawning grounds);
- fitness consequences – are important for stage in life cycle (e.g. feeding grounds);
- naturalness – pristine areas; and
- resilience – areas which are vulnerable to disturbance.

Note: vulnerability (considered under other parameters) and probability of disturbance (relates more to risk assessment) were not considered in EBSA analyses

DFO identified important areas (IAs) for species or species groups in PNCIMA, which collectively covered almost all of PNCIMA. They correlated IAs with physical & oceanographic features as the basis for subsequent EBSA identification. 41% of PNCIMA was identified as an EBSA using this method.

Questions and Discussion:

EBSAs will serve as one starting point to identify things that are ecologically valuable in PNCIMA.

DFO is also interested in learning what other work has been done towards identifying and valuing ecosystem components and understanding how this work can relate to the EBSA work.

Ecologically and Biologically Significant Areas (EBSAs): Lessons Learned

Ian Perry, Fisheries and Oceans Canada

Fisheries and Oceans Canada recently held a national Canadian Scientific Advisory Secretariat meeting to review how well the EBSA process has worked and to highlight lessons learned to share with others on the process. Outcomes and recommendations of the meeting included:

- Criteria of uniqueness, aggregation and fitness consequences have worked well.
- Uniqueness is something that should be assessed with a scale component.
- Fitness consequences criterion is challenging to apply because we don't know much about the full life history of animals.
- Naturalness and resilience are secondary criteria that are more difficult to apply.
- Information on local and traditional ecological knowledge must include how the information was collected, areas covered etc.
- EBSAs need to be re-evaluated over time.
- In poor data situations, you need to record uncertainties and do the best you can with the information you have available, recognizing that the information you have may not be designed for your purposes.
- EBSA criteria are applicable to freshwater and coastal habitats.
- Reporting fixed boundaries loses information, therefore use fuzzy boundaries.
- There is currently little guidance on how EBSAs should be used in management (To date, they have been used mostly for MPAs).
- The use of VECs is not unique to our region. There are three main approaches globally, however the same elements are at the core of each of the approaches.

3. Panel Discussion on Ecological VECs for PNCIMA

A panel discussion was held in the afternoon of the workshop, focusing on information and methods available for identifying ecological VECs in PNCIMA, with dialogue between invited experts and all other workshop participants.

Panel members:

Krista Royle	Parks Canada
Glen Jamieson	Retired DFO Scientist
Rob Paynter	Province of BC
Ian Perry	DFO
Karin Bodtker	BCMCA
Doug Biffard	BC Parks
Jim Boutillier	DFO
Jim Irvine	DFO
Greg Jones	Environment Canada
Neil Davis	DFO

Panel Facilitator: Craig Darling

Information

1. **What other information is available beyond that presented this morning that is relevant to the identification of VECs for PNCIMA?**

    - When thinking about information, it is important to think about who the "valuers" are. The values identified by scientists also need to be linked to the values of society.
    - There is a lot of data to be collected and we need to know what we'll use it for. What we know is very small compared to what we don't know. By sharing information we can learn more about potential impacts.
    - Many of the methods presented today used the same information and data sets. What else is available? Each organization looks at physical and biological data from different ways. A common "language" around values is needed for ecological and social values (e.g. in economic systems, the common language is dollars).
    - There is a lot of data available within other organizations (private sector, local governments, First Nations, fishers etc). It is important that the PNCIMA plan reflects this information as well.
    - Data is available in different forms (e.g. anecdotal information from marine users). In the longer-term, we may need a more systematic, standardized approach to collecting information.
    - Can PNCIMA obtain environmental assessment data from consulting companies?
    - We have enough data to move forward to other important stages of the planning process. Trying to dig to more for data may be a waste of energy and resources. If we need to drill into specific areas for more data at a later date, that can be done.
    - Regional Districts are a good source of information (e.g. they have copies of environmental assessments). They can help to make information available.

Summary:

There are little additional data to be considered that have not been taken into account by existing initiatives such as the Ecologically and Biologically Significant Areas work, the BC Marine Conservation Analysis, baseline information gathering for major project proposals, and provincial work on valued marine ecosystem features. However, they are asking different questions of the information or using different methods of valuation. Efforts should be focused on synthesizing what is relevant to PNCIMA from this existing information rather than on gathering additional information. Potential sources of relevant existing information beyond those identified by workshop presenters include: environmental assessments, Regional District data sets, traditional ecological knowledge, and local knowledge.

Action Items:

- DFO to look into accessibility of environmental assessment data sets.
- DFO to consider how to best address traditional ecological knowledge and local ecological knowledge in the plan.
- Neil Davis and Al Huddlestan to connect on next steps required for regional districts to share information.

- Anyone with data sources relating to the ecological scope of PNCIMA is to contact Sheila Creighton with further details. The onus is on all PNCIMA sectors to bring the information forward, where possible. All interested to send comments to Sheila Creighton by January 6, 2012.
- IOAC members to look at existing data in the PNCIMA atlas and the BCMCA atlas and provide comment on what is there and what is missing. All interested to send comments to Sheila Creighton by January 6, 2012.

2. What are the strengths, limitations and gaps in the information that has been identified?

- Identifying information gaps can be challenging when we don't know where the data is coming from. It is important for sources of data to be clear.
- Quality assurance on the data is key. We need to come to a common understanding on how to collect data, and be able to judge the value of how it was collected and whether it is appropriate.
- It is important to collect "everything" before any prioritization takes place, and to be transparent about all that is identified.
- Criteria can help to inform how to go from a long list to a shorter list of priority areas. By being explicit about the criteria, there is increased transparency and objectivity in the process.
- Traditional ecological knowledge and local ecological knowledge is important to incorporate. It will be up to First Nations to decide how they choose to bring traditional ecological knowledge into the PNCIMA process.
- It will be important to include non-spatial components of ecosystems (e.g. timing of springtime algae blooms) in PNCIMA VECs. Can the definition of VECS include processes in time?

Summary:
Strengths and limitations are inherent in all information sources, and the relevance of the strengths and limitations will depend on the types of questions we are seeking to answer with this information. The important thing is to make best use of the information we have and explicitly acknowledge its limitations and any assumptions we are making, while trying to improve on available information moving forward. Traditional knowledge and local knowledge were identified as gaps in the information identified by workshop presenters that should be addressed.

3. What are some of the lessons learned in the use of this information to inform decision making beyond those outlined in the presentations this morning?

- Don't begin by drawing boxes around areas on maps. DFO used oceanographic features to try to avoid biases in determining important areas. Consider using colour shading for areas of emphasis. Leave boundaries until later in the process.
- The challenge with drawing marks on maps is that it is difficult not to assume that everything within the blob is homogeneous. However, there is heterogeneity within all areas. Some will have more shared value than others.

- Need to look at what activity is to be managed, where it is, and what is important in this area.
- Scientific rigor is important, but there needs to be an opportunity to get community input too. Aggregate this information to help inform things at a strategic scale.
- Compare data types. How are they different? The plan should be flexible to take new information into account. Don't throw any data away; it may prove useful in the future.
- Degraded systems can recover when key stressors are removed (e.g. recovery of sea otter population with removal of hunting), and environmental conditions are conducive to recovery.

Summary:
While we have a lot of information, we will still need to plan in a way that allows for what we don't know. Strategies for this include using fuzzy/flexible boundaries when identifying areas as VECs, and incorporating mechanisms for updates and adaptation as learning occurs over time.

Action Items:
- DFO will research terminology associated with valuing ecosystem components. In this regard, it was suggested that DFO should connect with Province of BC on a policy initiative they are involved with on cumulative effects.

- Anyone with data sources relating to the ecological scope of PNCIMA is to contact Sheila Creighton with further details. The onus is on all PNCIMA sectors to bring the information forward, where possible.

Methods

1. **What is the applicability of different methods for identifying VECs in PNCIMA planning?**
   - There are always strengths and weaknesses with data sets and how they are compiled. It is ideal, but very difficult to recalibrate the data so that it is standardized and "coming from the same place". A better approach might be to start from the results of different analyses: look at the "blobs" on the map and see which ones are consistent across all methods. This would suggest robustness of the results. Where there are differences? We can learn about the strengths and weaknesses of the different methods.
   - There will undoubtedly be overlap among different analyses of places identified as important, particularly if the data sets used by the different analyses are the same. However, results from one analysis may be different because it uses a different data set or asks a different question - therefore it is important that we don't lose sight of these areas simply because results don't match other analyses.
   - Ultimately, it is important to remember that there is not one "best" method. There will be new techniques for valuing ecosystem components five years from now. Settling on one approach is not the best route to take; draw from the strengths and results of multiple analyses.

Summary:
The EBSAs will serve as one starting point for identifying PNCIMA ecological VECs, recognizing that (a) there are other important sources of information and (b) more than a spatial approach to identifying VECs should be considered over the longer term.

2. What steps/measures can be taken to incorporate existing information on potential VECs generated by different projects/methods for the purposes of PNCIMA planning?

- Developing a set of objective criteria for identifying VECs may help to address the challenge of how VECs will change over time. The data analysis tools and methods may change, but the criteria can remain the same.
- Identifying criteria will be challenging but critical. Criteria don't necessarily need to be spatially explicit (e.g. uniqueness is a-spatial). Are the EBSA criteria enough? Additional criteria may warrant consideration (e.g. representativity).
- When considering representativity, it is valuable to consider PNCIMA VECs in conjunction with MPAs. If the goal is to take care of ecosystems for productive use, you need to protect a representative sample. To only focus only on what we currently recognize as significant is a risk. An approach that considers representativity allows for what we don't currently know about potential VECs.
- Do PNCIMA VECs encompass special features and representative features? Federal and federal-provincial Marine protected area network strategies have mandates to establish representative network of MPAs. These network strategies may help address representativity questions.
- The Province's approach to classification uses a coarse scale and a fine scale to identifying VECs. The coarse scale allows an ecosystem classification scheme that allows for planning for the "unknowns". The fine scale approach catalogues what is already known.
- DFO clarified that the PNCIMA plan is not intended to classify and protect a sample of everything in PNCIMA. VECs are intended to identify elements of significance in the area and serve as base units for subsequent risk assessment that will enable prioritization.
- It is important to be aware of environmental variables that influence VECs (e.g. predators, climate conditions etc).

Summary:
VECs identified by other projects or methods should be compared with the EBSAs to identify any additional VECs relevant to PNCIMA planning. Areas that are similar across methods should be noted. Where there are differences, use that as an invitation to explore the assumptions, strengths, and limitations of different methods for identifying VECs.

Action Items:
- DFO to clarify criteria to define the VECs.

4. Summary of Next Steps

Information

1. DFO to look into accessibility of environmental assessment data sets.
2. DFO to consider how to best address traditional ecological knowledge and local ecological knowledge.
3. Neil Davis and Al Huddlestan to connect on next steps required for regional districts to share information
4. IOAC members to look at existing data (PNCIMA atlas, BCMCA atlas) and provide comment on what is there and what is missing. All interested to send comments to Sheila Creighton by January 6, 2012.
5. Anyone with suggestions for additional data sources relating to ecological VECs for PNCIMA is to contact Sheila Creighton with further details. The onus is on all PNCIMA sectors to bring the information forward, where possible.

Methods

6. DFO to clarify criteria to define the VECs.
7. DFO to compile a long list of potential VECs, drawing on EBSAs as appropriate and considering other analyses that have identified ecosystem elements of significance/value. What is common/different and why?
8. DFO to research terminology associated with valuing ecosystem components. In this regard, it was suggested that DFO should connect with the Province of BC on a policy initiative they are involved with on cumulative effects
9. DFO to review methods in terms of how to collect socio-economic information.

Follow up

10. DFO to assemble and distribute a summary of the workshop.
11. DFO to host workshop on socio-economic VECs in February 2012. DFO to be in touch regarding potential participants, background information, and dates for the workshop.

Appendix 1: Workshop Participants

Name	Organization
Jim Abram	Strathcona Regional District
Steven Brown	Chamber of Shipping
Ross Cameron	BC Ferries
Steve Diggon	Coastal First Nations
Rupert Gale	Sport Fishing Advisory Board
Lorena Hamer	BC Seafood Alliance and Herring Research
Nick Heath	Sea Kayaking Association of BC
Al Huddlestan	Mt Waddington Regional District
Kim Johnson	Shell
Brian Lande	Central Coast Regional District
Keeva Kehler	Province of BC
Evan Loveless	Wilderness Tourism Association
Patrick Marshall	Coastal Community Network
Jim McIsaac	T Buck Suzuki Foundation
Richard Opala	Marine Harvest
Georgia Papadimitriou	International Ship Owner's Alliance
Urs Thomas	Sport Fishing Advisory Board
Alan Thomson	Recreational Canoeing Association of BC
Bill Wareham	David Suzuki Foundation
Kim Wright	Living Oceans Society
Craig Darling	Workshop Facilitator
Doug Biffard	BC Parks
Karin Bodtker	BC Marine Conservation Association
Jim Boutillier	Fisheries and Oceans Canada
Neil Davis	Fisheries and Oceans Canada
Jim Irvine	Fisheries and Oceans Canada
Sabine Jessen	Canadian Parks and Wilderness Society
Greg Jones	Environment Canada
Rebecca Martone	Fisheries and Oceans Canada
Miriam O	Fisheries and Oceans Canada
Rob Paynter	Province of BC
Ian Perry	Fisheries and Oceans Canada
Krista Royle	Parks Canada
Bonnie Antcliffe	Fisheries and Oceans Canada
Sheila Creighton	Fisheries and Oceans Canada
Melissa Evanson	Fisheries and Oceans Canada
Kate Ladell	Fisheries and Oceans Canada
Allan Lidstone	Province of BC
Bruce Reid	Fisheries and Oceans Canada

Appendix 2: Workshop Agenda

PNCIMA Valued Ecosystem Components Workshop Agenda

Nov 30, 2011, 8:30 – 4:15
Delta Vancouver Airport Hotel
3500 Cessna Drive, Richmond, BC

Workshop Background:

The PNCIMA planning process will pursue a risk-based approach to the identification of PNCIMA-scale ecosystem priorities that may warrant closer management attention. The first step in this risk based approach is to identify the valued ecosystem components (VECs) that will serve as the base units for risk assessment. VECs may be ecological, socioeconomic, or cultural in nature. Ecological VECs will be the focus of this workshop. A follow-up workshop on socioeconomic and cultural VECs being explored for the early new year.

Workshop objectives:

- Build understanding of the concept of VECs.
- Identify information available that can inform the development of VECs in PNCIMA; review strengths, limitations, and gaps in information available.
- Review different methods used in the identification of VECs and explore their applicability to PNCIMA planning.
- Identify lessons learned from other experiences with VECs.

Workshop Agenda:

Part 1 - Introduction & Background

8:30 Plenary introduction (15 min)
- welcome and introductions
- housekeeping
- agenda review

8:45 Background and Context
- VECs & a risk based approach to priority setting for PNCIMA

Part 2 – Presentations on available information relevant to VECs for PNCIMA

9:15 PNCIMA ecosystem overview – status, trends, drivers (Jim Irvine, DFO)

9:45 Methods for identifying valued marine ecosystem features in provincial coastal planning, and lessons learned in their application (Doug Biffard, Province of BC)

10:15 Break

10:30 BC Marine Conservation Analysis – identifying marine areas of high conservation value on the BC coast (Karin Bodtker, BCMCA project team)

11:00 Methods and results from identifying ecologically and biologically significant areas in PNCIMA (Glen Jamieson)

11:30 Lessons learned across Canada in the identification of ecologically and biologically significant areas (Ian Perry / Jim Boutillier, DFO)

12:00 Lunch (Provided in Pier 73 Restaurant)

Part 3 - Discussion

1:00 Overview of discussion topics & format

1:15 Breakout group discussions – session 1

Two topics:

1. Information
    - What other information is available beyond that presented in the morning's presentations that is relevant to the identification of VECs for PNCIMA?
    - What are the strengths, limitations, and gaps in the information that has been identified?
    - What are some of the lessons learned in the use of this information to inform decision making beyond those outlined in the presentations this morning?
2. Methods
    - What is the applicability of different methods for identifying VECs in PNCIMA planning?
    - What steps/measures can be taken to incorporate existing information on potential VECs generated by different projects/methods for the purposes of PNCIMA planning?

2:15 Breakout group discussions – session 2

- Swap topics from session 1 to cover the other topic

3:15 Break

3:30 Workshop summary - reporting out in plenary

4:00 Next steps

- How workshop feedback will be used
- Socio-economic VECs workshop preview
- Next IOAC meeting dates & theme

4:15 Adjourn