A PLAN FOR USER GROUP ENGAGEMENT

in the British Columbia Marine Conservation Analysis



July 2008

A BCMCA Project Team document



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Glossary

Association – an organisation that represents the interests of a user group. These organisations may participate on sectoral committees or other advisory bodies.

Project team member – an organisation or agency that participates as a full member on the BCMCA project. Project team members are responsible for all strategic decisions about the BCMCA project, including its design and oversight of its implementation. Input from all project team members is required before major project decisions are taken. The project team operates according to a Terms of Reference drafted by members at the outset of the project which is available at <u>www.bcmca.ca</u>.

Project team observer – observers on the project team are invited to take part in all project team decisions and meetings. Their input to major decisions is invited and treated in the same way as that of full members, but where they choose not to provide input, the project team will take decisions in their absence.

Representative bodies – a general term used in this document to describe any committee, advisory body, or industry association that represents the interests of one or more marine user groups.

Sector – the term that refers to the broad groups of human users in BC's marine environment that have been identified by the BCMCA. The sectors are commercial fishing, recreational fishing, energy, marine recreation and tourism, shipping and marine transport, and marine and foreshore tenures. Each sector may consist of multiple distinct user groups.

Sectoral committee – an advisory body for a certain marine activity (e.g., a fishery) composed of representatives from relevant user groups intended to provide feedback and advice on management to a government body regulating the marine activity. This term is frequently used in the commercial fishing sector.

User group – a more specific term than sector used to refer to a set of human users that essentially all do the same marine activity (e.g., halibut fishers or tugboats or sea kayakers). There may be numerous user groups within a sector and there may be numerous representative bodies that represent a given user group.

1. Introduction

The British Columbia Marine Conservation Analysis (BCMCA) is assembling the best available spatial information documenting biophysical attributes and human uses of Canada's Pacific Ocean. The project team, comprised of representatives from government, academia, and environmental non-governmental organisations¹, has committed to assembling and analysing this information in a transparent and collaborative fashion. Via a series of workshops and external review processes, scientific experts have provided input to the assembly and analysis of biophysical data. Similarly, managers and user group representatives are being invited to share and review data related to human use.

This document relates to the involvement of user groups. Its purpose is two-fold: (1) to outline the rationale and principles that guide the inclusion of user groups in the BCMCA project and (2) to describe the two mechanisms for user group engagement planned for the BCMCA. The first mechanism is the Human Use Data Working Group, designed to elicit overarching project direction and advice from human use sector representatives. The second mechanism is the Group-by-Group Engagement process intended to solicit more specific feedback, identify additional data, and facilitate data review.

2. Rationale for user group engagement

The BCMCA seeks to achieve several objectives by inviting the participation of user groups. First, collaborative approaches help observe the ethical principle that those represented in the data assembled should have input to the formulation and use of those data. Second, for many sectors, known and accessible spatial data sets documenting their use of the marine environment do not exist, are incomplete, or are of poor quality. User groups may hold, or have knowledge of, spatial data that can be added to existing data sets. They may also identify limitations of existing data or ways in which data about their sector should be used appropriately. In these ways, user group feedback will enable a thorough documentation of data gaps and the development of more complete and accurate BCMCA outputs that appropriately represent the marine activities of user groups. Third, the project team hopes that engaging user groups will help build an awareness of the BCMCA. The fourth objective is to increase the legitimacy of BCMCA outputs among user groups. User groups are more likely to accept and utilise products like maps and spatial analyses if they have been involved in and understand the process used to generate them. The second and third objectives are both intended to help ensure that BCMCA outputs are widely used by all marine interest groups to inform marine use and conservation decisions.

¹ First Nations, the BC Ministry of Environment Oceans and Marine Fisheries Division, and the West Coast Vancouver Island Aquatic Management Board also participate as observers on the project team.

3. Principles for engagement

Drawing from research on collaborative environmental and natural resource-related initiatives, the BCMCA project observes a set of principles that guide engagement with user groups:

Responsible data use: the best available spatial information is used and analysis is informed by the latest in marine planning theory. The accuracy and completeness of data are clearly communicated in project outputs. Data shared with the BCMCA by contributing organisations are used and shared according to each organisation's wishes as detailed in formalised data sharing agreements.

Peer review: the project draws on the expertise of governments (federal, provincial and First Nations), resource managers, the conservation community, user groups, academics, and other scientists. The project invites external review by these groups to ensure informed, scientifically defensible methods and products.

Collaboration: the project seeks the input of data custodians, user groups, governing agencies, and others and attempts to incorporate their input to the greatest degree possible given the scope, mandate, and timelines of the project. In doing so, the BCMCA attempts to create products which are widely supported by contributing organisations and user groups.

Transparency: the purpose of the project, its methods, how data are used, who has reviewed data, and the intended applications of project outputs are transparent to all.

Inclusivity: user groups contacted are broadly representative of human uses of the marine environment.

Recognised representation: individuals engaged by the BCMCA are representatives from widely recognised representative bodies for their user group.

Continuous involvement: project team members, working group members, and user groups are involved throughout the different stages of the project.

Acknowledging change: changes in management, behaviour, and the environment result in spatially dynamic biophysical features and human uses of the ocean over time. In this respect, the limitations of a static atlas of maps are explicitly acknowledged.

Efficiency: membership numbers, meeting schedules, and the use of technology are considered in the composition of the project team and working group, and in the engagement of user groups. The intents are to keep costs and inconvenience to a minimum, achieve project outputs effectively and efficiently, and observe aforementioned principles.

4. Limitations to engagement

The BCMCA's engagement with user groups is limited in two ways. First, some user groups fall outside the mandate for engagement that the BCMCA has defined for itself. First Nations representatives were invited to sit on the project team and chose to participate as observers in order to provide feedback and advice on the project's direction from First Nations perspectives. The BCMCA Project Team recognises First Nations as important marine users with interests that are distinct from the sectors targeted in the human use component of this project. The project team supports the recommendations of its First Nations representatives who have advised that First Nations' knowledge and spatial marine use information is confidential, and therefore more appropriately mapped and analysed by First Nations in a separate process. Such a process will likely occur at a more regional or local scale capable of capturing individual First Nations' use and interests in greater detail than that permitted by the BCMCA's coast-wide focus. At this time, First Nations' involvement with the BCMCA will be primarily through their representation as observers on the project team and through feedback gathered from sector-based groups in which First Nations participate. Coastal communities are also excluded as targeted entities for engagement. The project team intends to capture the various interests of coastal communities in marine use through the broad inclusion of use-specific groups.

Second, the BCMCA is limited in its ability to engage user groups that fall *within* its mandate. While the BCMCA seeks to be as inclusive as possible, there are practical constraints and limitations to the planned scope of engagement with users. For example, the project does not have funding dedicated to generating new data about human use; it is focused primarily on assembling existing data. Further, the large number and diversity of marine users precludes the possibility of engaging all individuals within the time and resources allocated to the project. These limitations demand that the BCMCA focus on engaging organisations with coast-wide constituencies that broadly represent different marine user groups, rather than individual users, wherever possible. Focusing engagement in this way will help ensure inclusion of all important user groups that want to be involved and/or that can contribute additional spatial data.

5. Mechanisms for user group engagement

User group engagement will happen via two mechanisms intended to complement one another.

5.1 The Human Use Data Working Group

First, at a strategic level, a Human Use Data Working Group of user group representatives will provide overarching advice and recommendations to the project team. The working group will consist of a representative from each of the six human use sectors identified by the project team: commercial fisheries, recreational fisheries, shipping and marine transport, energy, recreation and tourism, and marine and foreshore tenures. Two of these six representatives will

be nominated by the working group to participate as members or observers on the project team, as determined by the working group. Working group members will be responsible for relating the overarching perspective of their respective sectors in their advice and recommendations, or directing the BCMCA to user group contacts for perspectives they do not feel able to represent. The working group will provide input that enables the BCMCA to achieve its stated goals and objectives. All advice and recommendations will be documented for the record and incorporated wherever possible, while respecting project goals, products, principles, budgets, and timelines. Incorporation of the working group into the project will also help the project realise its commitment to a collaborative, transparent, and inclusive approach.

More specifically, the working group's advice will address three topics: user group engagement, human use data assembly, and human use data analysis. First, with respect to user group engagement, the working group will review and provide comment on the BCMCA's user group engagement plan, help identify suitable user group members for engagement with the BCMCA, help communicate the BCMCA's purpose and progress to their sector's constituents, and help communicate their constituents' comments and concerns to the project team. Second, with respect to data assembly, working group participants will help identify relevant spatial datasets for the project team to investigate, recommend and help coordinate means of improving existing spatial data for their constituents, provide commentary on the display of data within the atlas, and make recommendations on the design of the atlas of human uses. Third, with respect to data analysis, the working group will provide input on the use of human use data within spatial analyses using Marxan (for an explanation of Marxan, see http://www.bcmca.ca/Marxan.html). This may include recommendations on how to value or weight human use data, how to combine these different human use data sets, and how to identify important areas for human uses in general. The working group will work with the project team to develop the human use inputs to Marxan scenarios. The working group will also provide commentary on the results of Marxan scenarios.

Additional details of the working group's responsibilities and procedures are described in its Terms of Reference which are available at the BCMCA website (<u>www.bcmca.ca</u>).

5.2 Group-by-group engagement²

The second mechanism for engaging user groups is a group-by group engagement process. The purpose of this group-by-group engagement is to invite more specific feedback from each user group about the BCMCA project, invite their review of spatial data assembled by the BCMCA that represents their marine use, and invite them to contribute their own data where they believe this is in their best interest. Figure 1 outlines a general process model for group-by-group engagement. It seeks to facilitate the assembly and review of spatial data in an inclusive

² Information on individual user groups in this section reflects the BCMCA's current understanding of these groups and the data available which represents their use; other representative bodies and data may exist that the BCMCA has not yet identified. The information in this section should not be viewed as exhaustive, but rather as part of a work in progress.

and transparent manner, observing the project's principles outlined above. This general model will be modified for each user group in accordance with their characteristics and the quality of existing data about their marine use.

5.2.1 Commercial fisheries

Most commercial fisheries that occur regularly have sectoral advisory boards or committees set up by Fisheries and Oceans Canada (DFO). These committees are typically composed of commercial, recreational, First Nations, environmental, and other representatives and are tasked with providing a forum for discussion and advice to DFO representatives on issues important to the management of the fishery in question. Commercial fishers have also formed numerous industry associations specific to different fisheries that help represent their interests in fisheries management. In some instances, these associations have also been involved in funding aspects of fishery management.

The general group-by-group engagement process planned for commercial fisheries is to introduce the BCMCA first to resource managers in order to arrange introductory presentations for sectoral committees at their scheduled meetings. Meetings will be followed with the identification of individual representatives who can act as contact points for coordinating data reviews. Initial introductory meetings with some advisory boards have elicited recommendations to also include the BC Seafood Alliance, which represents many groups within BC's seafood industry, in the BCMCA's engagement with commercial fisheries. The BCMCA is following this recommendation and has contacted the BC Seafood Alliance to explore their interest in involvement in the BCMCA.

Clam

Representative bodies: Pacific Regional Clam Management Committee. There is no coast-wide commercial association.

Data status: The BCMCA has acquired the clam atlas from DFO, which does not map catch or effort, only harvesting beaches. The information is somewhat out of date. Environment Canada has better spatial data but it is not available for sharing with the BCMCA for confidentiality reasons.

Engagement process: general process model, inviting review of the clam atlas as to its accuracy and completeness, and inviting comment on whether these data represent where this marine use occurs. This sector has not yet been contacted as committee meetings are in the early fall. Next steps will be to prepare maps and introduce the project to individual committee members via email and telephone and invite their review of the atlas.



Figure 1. General process model for group-by-group engagement.

Crab

Representative bodies: Crab Sectoral Committee. There are seven area-based industry associations, but no coast-wide commercial association. However, there is currently an effort to establish a coast-wide BC Crab Fishermen's Association.

Data status: the BCMCA has acquired coast-wide catch and effort data from DFO in 4 km (aggregated across multiple years) and 10 km (unaggregated) grid cells.

Engagement process: general process model. The BCMCA delivered an introductory presentation to the crab committee on May 7th, 2008 and is now seeking to identify individuals that will review catch and effort maps.

Dogfish

Representative bodies: the Groundfish Hook and Line Advisory Committee (GHLAC), which also addresses lingcod and rockfish fisheries. The BC Dogfish Hook and Line Industry Association represents the interests of harvesters coast-wide.

Data status: dogfish catch is rolled up into a "Schedule II" fisheries map layer which the BCMCA has acquired from DFO in 4 km grid cells that represent catch and effort aggregated across multiple years.

Engagement process: general process model. The BCMCA introduced the project at a Commercial Industry Caucus meeting on May 22nd, which brings together all commercial groundfish fisheries, and will now follow up with dogfish representatives.

Eulachon

Representative bodies: Eulachon consultations occur irregularly for First Nations fisheries but there is no fishery at this time. There is no coast-wide commercial association for this fishery.

Data status: no known spatial data exists for this fishery, which is concentrated near the mouths of several rivers when it occurs.

Engagement process: this fishery is not active and no spatial data is known. Therefore, no engagement is planned.

Euphausiids

Representative bodies: Euphausiid Sectoral Committee. The Krill Trawlers Association represents harvesters' interests coast-wide.

Data status: the BCMCA has acquired coast-wide catch and effort data from DFO in 10 km grid cells for the years 2000-2004. The fishery occurs in only a few locations within the Strait of Georgia.

Engagement process: as a small, irregularly occurring, experimental fishery, no engagement is planned.

Geoduck

Representative bodies: Geoduck Advisory Committee. The Underwater Harvesters' Association represents commercial harvesters coast-wide.

Data status: the BCMCA has acquired coast-wide catch and effort data from DFO in 4 km (aggregated across multiple years) and 10 km (unaggregated) grid cells.

Engagement process: general process model, though an introductory presentation is not possible because sectoral meetings are not held until late fall. Next steps will be to introduce the project to individual committee members and the Underwater Harvesters' Association via email and telephone and invite their review of the atlas. The BCMCA will plan to attend the fall meeting to conduct or summarise reviews, based on progress to that point.

Gooseneck barnacle

Representative bodies: none known, though the West Coast Vancouver Island Aquatic Management Board has been involved in past management planning for this fishery.

Data status: polygons drawn by fisheries officers and managers representing areas important to this fishery have been acquired from DFO. This is a regional dataset for part of the west coast of Vancouver Island.

Engagement process: as an irregular, very small fishery not currently active, no engagement is planned.

Green Sea Urchin

Representative bodies: Green Sea Urchin Sectoral Committee. The West Coast Green Sea Urchin Association represents commercial harvesters' interests coast-wide.

Data status: the BCMCA has acquired coast-wide catch and effort data from DFO in 4 km (aggregated across multiple years) and 10 km (unaggregated) grid cells.

Engagement process: general process model, though an introductory presentation to the sectoral committee will not be made. There is an overlap of harvesters in this fishery with the red urchin and sea cucumber fisheries, and the BCMCA has made presentations to those two sectoral committees which should serve to make some representatives of the green urchin fishery aware of the BCMCA. Next steps will be to follow up with individual committee members via email and telephone and invite their review of the atlas.

Groundfish trawl

Representative bodies: Groundfish Trawl Advisory Committee. The Canadian Groundfish Research and Conservation Society represents the interests of commercial harvesters coastwide.

Data status: the BCMCA has acquired coast-wide catch and effort data from DFO in 4 km (aggregated across multiple years).

Engagement process: general process model. The BCMCA made an introductory presentation at a Commercial Industry Caucus meeting on May 22nd, 2008. Based on feedback from caucus representatives, the BCMCA will follow up with communication to the advisory committee and/or the industry association.

Hake

Representative bodies: Inseason Hake Advisory Committee. Hake fisheries are prosecuted by groundfish trawl vessels, therefore the Canadian Groundfish Research and Conservation Society would also represent the interests of these harvesters.

Data status: hake catch and effort is currently rolled up in groundfish trawl data. DFO will separate out hake from the trawl data and make it available to the BCMCA in a 4 km grid aggregated across multiple years.

Engagement Process: the hake committee has elected not to make time for an introductory presentation from the BCMCA at their meetings. The BCMCA will attempt to reach hake harvesters through contact with representatives at meetings involving groundfish trawl such as the Commercial Industry Caucus or the Groundfish Trawl Advisory Committee. The general process model would be followed from that point forward.

Halibut

Representative bodies: Halibut Advisory Board. The Pacific Halibut Management Association (PHMA) represents the interests of over 90% of commercial halibut fishers coast-wide.

Data status: the International Pacific Halibut Commission (IPHC) makes catch and effort data aggregated into large halibut management areas publicly available. The IPHC is a bi-national body with a mandate to conduct stock assessments and biological research on halibut in Canadian and American waters on the Pacific Coast. The BCMCA will request the data held by the IPHC and inquire about the possibility of better resolution data.

Engagement process: general process model. The BCMCA made an introductory presentation at a Commercial Industry Caucus meeting on May 22nd and a Halibut Advisory Board meeting on June 24th, 2008. Based on feedback from representatives, the BCMCA will follow up with further communication to the Halibut Advisory Board and the PHMA.

Herring

Representative bodies: the Integrated Herring Harvest Planning Committee (IHHPC) brings multiple sectors together and the Herring Industry Advisory Board (HIAB) is the commercial advisory body. The Herring Conservation and Research Society (HCRS) was started by members of the roe herring fishery and represents the interests of herring harvesters.

Data status: spatial data on the location of herring spawn has been acquired by the BCMCA from DFO. The BCMCA is also investigating the possibility of generating a map layer of polygons representing fisheries openings for roe herring that could be populated with catch and effort data.

Engagement process: general process model. The BCMCA made an introductory presentation to the IHHPC on May 1st, 2008 and is now following up with representatives from the HIAB and HCRS.

Lingcod

Representative bodies: the Groundfish Hook and Line Committee, which also addresses dogfish and rockfish fisheries. The Groundfish Hook and Line Association (also known as the Lingcod Association) is focused on representing the interests of lingcod harvesters.

Data status: lingcod catch is rolled up into a "Schedule II" fisheries map layer which the BCMCA has acquired from DFO in 4 km grid cells that represent catch and effort aggregated across multiple years.

Engagement process: general process model. The BCMCA made an introductory presentation at a Commercial Industry Caucus meeting on May 22nd, 2008, which brings together all commercial groundfish fisheries.

Octopus

Representative bodies: there is no advisory committee, but the Pacific Octopus Harvesters is an industry association that represents the interests of commercial octopus fishers.

Data status: polygons drawn by fisheries officers and managers representing areas important to this fishery have been acquired from DFO. This appears to be a regional dataset relevant to the small portions of south coast.

Engagement process: no engagement process is currently planned due to the very small size of the directed fishery.

Prawn

Representative Body: Prawn Sectoral Committee. There are several industry associations representing harvesters, including the BC Prawn Fisherman's Group, the Pacific Prawn Group, and the Pacific Prawn Fishermen's Association (PPFA). The PPFA appears to be the largest industry association.

Data status: the BCMCA has acquired catch and effort for this fishery in 4 km grid cells aggregated over multiple years.

Engagement process: general process model. The BCMCA attended a sectoral meeting on April 4th, 2008 and established a contact at the PPFA.

Red Sea Urchin

Representative Body: Red Sea Urchin Sectoral Committee. The Pacific Urchin Harvesters Association represents the interests of commercial fishers coast-wide.

Data status: the BCMCA has acquired catch and effort for this fishery in 4 km grid cells aggregated over multiple years.

Engagement process: general process model. The BCMCA attended a sectoral meeting on April 15th, 2008. There is no interest from this group in contributing more data than what the BCMCA has already assembled.

Rockfish

Representative bodies: Groundfish Hook and Line Committee (GHLAC). No industry association exists to represent commercial directed rockfish harvesters.

Data status: the BCMCA has acquired catch and effort for this fishery in 4 km grid cells aggregated over multiple years.

Engagement process: general process model. The BCMCA has introduced the project at a Commercial Industry Caucus (CIC) meeting on May 22nd, 2008. The CIC brings together all commercial groundfish fisheries. Next steps will be to communicate with GHLAC and identify individuals to participate in the data review.

Sablefish

Representative bodies: Sablefish Advisory Committee (SAC). The Canadian Sablefish Association represents the interests of commercial sablefish harvesters.

Data status: the BCMCA has acquired catch and effort for this fishery in 4 km grid cells aggregated over multiple years.

Engagement process: general process model. The BCMCA has introduced the project at a Commercial Industry Caucus (CIC) meeting on May 22nd, 2008. The CIC brings together all commercial groundfish fisheries. SAC members have advised that an additional presentation to SAC is unnecessary. Next steps will be to arrange data review.

Salmon

Representative bodies: the Integrated Salmon Harvest Planning Committee (ISHPC) brings multiple sectors together to solicit advice on operational decisions about salmon harvests for the BC coast. The Commercial Salmon Advisory Board (CSAB) brings commercial interests together, as represented by participants from Area Harvest Committees, the Native Brotherhood, and processors, on a coast-wide scale. Numerous industry associations exist that represent specific gear types, regions, or both.

Data status: there is no spatial information based on catch and effort available for salmon. Polygons of important areas for salmon net and troll fisheries have been drawn by fisheries officers and managers in the different coastal regions of BC. The BCMCA is working with DFO to support GIS work that will generate a map layer of polygons representing fisheries openings that can be populated with catch and effort data.

Engagement process: the BCMCA plans to begin by introducing the project at the broadest level possible within the salmon fisheries (i.e., the ISHPC). However, the next meeting of this group is

in the fall. In the meantime, the BCMCA will work with DFO resource managers to distribute an introductory message for salmon advisory representatives through their mailing lists. The CSAB has also been contacted.

The new map layer of catch and effort within salmon fishery openings will provide more detailed and empirically-based information than existing data. The BCMCA will therefore use this layer as the primary data set for incorporation into atlases and analyses. Accordingly, user group representatives will be invited to review and provide comments on this data set rather than the existing LEK maps of polygons generated by fisheries officers.

Sardine

Representative bodies: Sardine Integrated Advisory Board. The Canadian Pacific Sardine Association (CPSA) represents the interests of commercial harvesters and the First Nations Sardine Association (FNSA) represents the interests of First Nations commercial harvesters, who hold approximately half of the 50 commercial licenses.³

Data status: no spatial data illustrating the location of this fishery exists. The BCMCA is working with DFO and one of their service providers to collate several databases and translate the data into a map layer of catch and effort within 4 km grid cells.

Engagement process: the Sardine Integrated Advisory Board does not meet again until late 2008. In the interim, the BCMCA will contact relevant DFO managers and representatives from the CPSA and FNSA to inform them of the project and invite their feedback on how to involve them.

Scallop

Representative bodies: no sectoral committee exists for this experimental fishery. The Pacific Scallop Harvesters Association represents the interests of commercial harvesters.

Data status: a handful of polygons drawn by fisheries officers and managers exists on the south coast and the west coast of Vancouver Island.

Engagement process: this experimental fishery is only open in a few specified areas each year where industry-funded biomass surveys are permitted. The vast majority of the coast remains closed. Due to this, the small size of the fishery, and its experimental nature, no engagement process is planned.

³ Only 20 of the 50 licenses are typically fished in any given year.

Sea cucumber

Representative bodies: Sea Cucumber Advisory Committee. The Pacific Sea Cucumber Harvesters Association represents the interests of commercial harvesters coast-wide.

Data status: the BCMCA has acquired catch and effort for this fishery in 4 km grid cells aggregated over multiple years.

Engagement process: general process model. The BCMCA has made an introductory presentation at the sectoral committee meeting on June 9th, 2008. Next steps will be to follow up with representatives to arrange data review.

Shrimp

Representative bodies: Shrimp Trawl Sectoral Committee. The Pacific Coast Shrimpers' Cooperative Association, the West Coast Shrimp Fishery Association, and the BC Beam Trawlers' Association represent the interests of commercial harvesters.

Data status: the BCMCA has acquired catch and effort for this fishery in 4 km grid cells aggregated over multiple years.

Engagement process: general process model. The sectoral committee does not meet until fall 2008. In the interim, the BCMCA will contact individual representative from the PCSCA to introduce the project and attempt to use the fall sectoral meeting as a chance to solicit review of the data assembled.

Squid

Representative bodies: none known.

Data status: a handful of polygons drawn by fisheries officers and managers exists on the west coast of Vancouver Island.

Engagement process: due to the small size of this fishery and the lack of a representative body, no engagement is planned.

Tuna

Representative bodies: Tuna Advisory Board, which is multi-sectoral and also includes American representatives to account for the international and highly migratory nature of target species. The BC Tuna Fisherman's Association represents the interests of commercial harvesters, and is the BC "member group" of the international Western Fishboat Owners Association. The

Canadian Highly Migratory Species Foundation brings tuna harvesting and processing interests together.

Data status: no spatial data is currently available for tuna fisheries. The BCMCA is exploring the possibility of working with DFO to create catch and effort map layers at a resolution of 1° by 1°.

Engagement process: general process model. The next sectoral committee is not until the fall, therefore, the BCMCA is contacting tuna resource managers, industry associations, and individual TAB representatives to introduce the project. Next steps will be to collaborate with DFO on the generation of map layers, and prepare these maps for review.

5.2.2 Recreational fisheries

Saltwater recreational (aka "sport") fishers form a large and diverse user group. Many different species are fished using traps, rods and reels, and hand-pick fishing methods all along the BC coast. BC is also a destination for recreational fishers from other provinces and countries. Many of these visitors stay in fishing lodges and/or engage fishing guides, highlighting the recreational fishing sector's composition as a mix of commercial operators and individual fishers. Because of this sector's size, prominence, and extractive nature, they have been singled out from the broader "recreation and tourism" sector.

Representative bodies: Similar to advisory arrangements between DFO and commercial fisheries, the Sport Fishing Advisory Board (SFAB) is a forum for two-way communication between DFO and the sport fishing community. DFO notifies and consults the SFAB on proposed management actions and SFAB representatives provide feedback and advice to DFO. The board is composed of sport fishing representatives from coastal regions of BC and interior regions with rivers that host fished anadromous runs. Two dozen local committees nominate representatives to south and north coast regional subcommittees of the main SFAB. The two regional bodies also include representatives from angling groups such as the BC Wildlife Federation and recreational fishing representatives to the main board.

Data status: Interviews with fisheries officers and managers in the mid 1990s lead to the creation of polygons identifying recreational fishing areas for several different species. Polygons were ranked in terms of their relevant importance. These maps have been obtained as regional data sets from DFO. The provincial ILMB combined these regional data sets into seamless coastwide data sets, but regional information is missing from several of these coast-wide coverages. The Parks Canada National Marine Conservation Area (NMCA) Feasibility Study in the Southern Strait of Georgia (SSOG) has also generated map layers identifying recreational fishing areas for several species within the study area. Polygons were generated through interviews with local fishing community members. These data will be made available to the BCMCA. Creel surveys are also conducted by DFO at many points on the coast. Discussions with DFO about accessing

and incorporating these data are underway. The BCMCA will also attempt to identify fishing lodges from provincial tenure databases.

Engagement process: The BCMCA will engage the recreational fishing sector through the SFAB. An introductory presentation to the main board of the SFAB was delivered on April 20th, 2008. SFAB representatives suggested that the BCMCA draw from the model of engagement used by Parks Canada for the NMCA study to review spatial data about recreational fishing. In response, the BCMCA has developed a plan to enter into contract with an individual experienced in the angling community and with the SFAB. The individual will coordinate reviews of existing spatial data with local SFAB committees. Because mapping work has been recently completed for the SSOG, reviews will be confined to those coastal areas and associated local committees outside of the SSOG. The advisor will attend local committee meetings throughout September and October 2008 and submit reviewed charts to the BCMCA for digitisation. Digitisation work will be completed by GIS contractors and updated maps will be completed for the advisor to present to north and south coast regional committees in November-December 2008 for confirmation.

5.2.3 Energy

The energy sector is made up of two sub-groups: offshore oil and gas, and renewable ocean energy (wind, tidal, wave). Currently, there are no commercial energy extraction/harnessing operations in BC's marine environment⁴; a federal moratorium on offshore oil and gas development has been in place for the BC coast since 1972 and renewable ocean energy is in its infancy. There are, however, offshore oil and gas tenures held by several companies and investigative permits that the provincial Integrated Land Management Bureau has granted to renewable ocean energy companies interested in researching the potential for developing wind, wave, and tidal energy projects. The two subgroups are treated separately below.

Oil and Gas

Representative bodies: the oil and gas industry is represented by the Canada-wide Canadian Association of Petroleum Producers. Ocean Industries BC (OIBC) is an umbrella group promoting economic development of BC's ocean industries. Members of this organisation include companies with interests in offshore oil and gas development.

Data status: the BCMCA has obtained offshore oil and gas map layers from Natural Resources Canada and the provincial Integrated Land Management Bureau illustrating the locations of exploratory wells, oil and gas tenures, and areas of greater and lesser exploratory potential in the Queen Charlotte Basin.

⁴ A turbine harnessing tidal currents has been installed as a demonstration project at Race Rocks near Metchosin on southern Vancouver Island.

Engagement process: after initial introductions and discussions with user group and governing agency representatives, the BCMCA plans to engage this user group through the OIBC and individual tenure holders. Next steps will be to confirm how these groups wish to be involved and to coordinate a data review process.

Renewable Ocean Energy

Representative bodies: the Ocean Renewable Energy Group (OREG) is a Canadian-based consortium of industry, government, and research institutions interested in the progress of renewable ocean energy development. The Canadian Wind Energy Association (CWEA) promotes wind energy development, though much of its work focuses on the more developed terrestrial industry.

Data status: the BCMCA has obtained maps illustrating the potential wind energy in BC's marine environment from Environment Canada's online Canadian Wind Energy Atlas. The wind energy maps are based on climate models derived from long term, large scale atmospheric data. Currently, these maps, which are available for download in MID/MIF and RPN formats, do not project properly in ArcInfo. Similar models based on ocean data have been developed to identify potential wave and tidal energy resources off the BC coast. The BCMCA is in discussions about data access with the private consultants and the National Research Council which have both worked to develop these datasets.

Engagement process: in the absence of regular sectoral meetings for this user group, several means of introducing the BCMCA have been pursued, including discussions with OREG, an introductory presentation at the Cooperative Ocean Information Network Forum attended by some energy interests, and introductory emails to individual companies and the CWEA. The BC Ministry of Energy, Petroleum and Mines and Natural Resources Canada have also been informed about the project. Next steps will be to confirm with user group representatives how they wish to be involved in the data review process. OREG has proposed the possibility of a meeting or workshop bringing together individual companies and OREG representatives to review and improve existing information. The BCMCA will introduce this idea to relevant companies to solicit their feedback.

5.2.4 Marine and foreshore tenures

This sector is perhaps the most diverse of the six identified by the BCMCA. Tenures are issued for uses including fish and shellfish farms, log handling areas, seabed communication cables, private docks, and ferry terminals. There is little that links many of these user groups other than their common status as tenure holders. For many tenure types, engagement with tenure holders will not be a priority, as information about areas of use is precise and comprehensive, use is spatially static, and individual users are small scale and unorganised at the coast-wide

level. For these tenure types, engagement will be limited to that necessary to obtain relevant spatial information – with review commentary – from government data custodians.

Tenure types for which the BCMCA will undertake a user group engagement process include aquaculture, large coastal infrastructure, and log handling sites. These use types are more relevant at coast-wide scales, are organised at a coast-wide level, and/or have important interactions with other marine user groups.

Aquaculture

Representative bodies: industry advisory panels that bring industry, provincial, and federal governments together exist for both finfish and shellfish aquaculture. Shellfish aquaculture operators are represented by the BC Shellfish Growers Association and salmon aquaculture, which accounts for over 90% of finfish farmed in BC, is represented by the BC Salmon Farmers Association.

Data status: map layers identifying existing locations of tenures and areas of development potential exist for both finfish and shellfish aquaculture. The map depicting shellfish development potential does not include the Strait of Georgia or the west coast of Vancouver Island. The map depicting finfish development potential does not include the Strait of Georgia. These maps have been obtained from the BC CRIMS site.

Engagement process: general process model. The project has been introduced to government managers in the provincial and federal governments. A Finfish Aquaculture Industry Advisory Panel meeting is not scheduled until the fall. Therefore, the BCMCA will introduce the project to finfish aquaculture representatives through individual discussions and attempt to use the fall advisory panel meetings as opportunities to coordinate or conduct data reviews. The Shellfish Aquaculture Industry Advisory Panel meets in June and in the fall. The panel has a full agenda and cannot make time for the BCMCA at the June meeting. The BCMCA will follow up with associations and attempt to arrange the data review for the fall meeting.

Large coastal infrastructure

Representative bodies: the Association of Canadian Port Authorities advocates for the interests of the port and harbour industry in Canada. The Harbour Authority Association of BC is a vehicle for dialogue between managers, directors, and associated businesses. The Waterways Development branch of the Canadian Coast Guard oversees many aspects of port and harbour development and operation. BC Ferries is the primary provider of marine passenger transportation services in BC, but this organisation is addressed as part of the shipping and marine transportation sector (see below).

Data status: the BC ILMB and the Waterways Development branch of the Coast Guard hold spatial data about ports and harbours and the BCMCA is inquiring about the possibility of making it available to this project.

Engagement process: general process model. The two associations and the Waterways Development branch of the Coast Guard have been contacted. Next steps will be to identify appropriate contacts within the port and harbour associations, determine how they wish to be involved, obtain spatial datasets from the ILMB and Coast Guard, and arrange data reviews.

Log handling sites

Representative bodies: The Truck Loggers Association (TLA) represents coastal independent loggers and related organisations. The Coast Forest Products Association (CFPA) represents the tenure holders and licensees on the coast. There is an active committee within the CFPA that deals with coastal tenuring issues including those related to log handling sites. BC Timber Sales, which coordinates the sale of crown timber at auction, is also relevant as they arrange coastal tenures for their customers.

Data status: the BC Integrated Land Management Bureau is the tenuring authority and maintains a spatial database of coastal tenure types that includes the locations of log handling areas.

Engagement process: general process model. The BCMCA has initiated discussions with representatives of the TLA, the CFPA, and BC Timber Sales to introduce the BCMCA project and invite feedback on how they would like to be involved. Next steps will be to arrange for the review of spatial information by representatives of these organisations and any additional organisations that they recommend for inclusion in the BCMCA's engagement process.

5.2.5 Recreation and tourism

The recreation and tourism sector is another diverse sector consisting of commercial operations and private recreation. Activities identified by the BCMCA in this sector include sea kayaking, diving, whale watching and marine wilderness tours, and recreational boating (e.g., sailing, yachting), and there are representative organisations for each. There are also a number of relevant organisations that are not use-specific – nor marine-specific in some cases – which will also be included in the engagement process for this sector. These organisations include the Council of Tourism Associations of BC, the BC Wilderness Tourism Association, and the Outdoor Recreation Council of BC, all of which are umbrella groups with marine-oriented member organisations. These organisations will be contacted to introduce the BCMCA and facilitate communication about the project to their members.

Sea kayaking

Representative bodies: The Sea Kayaking Association of BC is an association of independent sea kayakers which is affiliated with several regionally-based sea kayaking organisations. They are also a member of the Outdoor Recreation Council. The Pacific International Kayaking Association (PIKA) is a more recently formed group based in the Fraser Valley representing over 100 members in southwestern BC and northwestern Washington.

Data status: line and point maps of kayak routes and kayaking destinations have been obtained from the BC CRIMS site. Details are minimal; no information about relative importance or frequency of use accompanies these maps. The sea kayaking community is also working on a BC Marine Trail initiative that seeks to develop paddling trails, campsites, and safe havens along the BC coast. The BCMCA will inquire about any spatial data developed for this initiative.

Engagement process: the SKABC holds monthly meetings in Vancouver and PIKA holds monthly meetings in Langley. These and other kayak associations also come together regularly to develop their marine trails campaign. The BCMCA has contacted SKABC and PIKA about the best venue for the engagement of the sea kayaking community, and how their marine trails work might supplement existing spatial information about their marine use.

Diving

Representative bodies: The Underwater Archaeological Society of BC (UASBC) generates a database of shipwreck sites on the BC coast which is housed and maintained by the BC Archaeological Inventory Section. The Underwater Council of BC represents recreational diving interests in BC, though this organisation's activities are limited at present. The Dive Industry Association of BC is comprised primarily of dive charter operators.

Data status: the BCMCA has obtained a point map layer of recreational dive sites in BC from the BC CRIMS site. This map does not appear to include the west coast of Vancouver Island. Discussions with the UASBC and the BC Archaeological Inventory Section are underway to explore the possibility of including mapped data on shipwreck sites.

Engagement process: general process model. There are no known forums that bring together all diving interests to meet. Therefore, the BCMCA has contacted individual representatives from the three organisations listed above to introduce the project. Next steps will be to solicit reviews that can supplement existing information about dive sites, particularly for the west coast of Vancouver Island, and to determine whether shipwreck maps can be used to supplement existing information about dive sites.

Wildlife viewing and marine wilderness tours

Representative bodies: four regional organisations represent the bulk of whale watching businesses in BC. The Whale Watch Operators Association Northwest represents Canadian and US members in the southern Strait of Georgia and Haro Strait, the North Island Marine Mammals Stewardship Association represents members operating around northeast Vancouver Island, the Pacific Rim Association of Tour Operators represents members on the west coast of Vancouver Island, and the Gwaii Haanas Tour Operators Association represents members around southern Haida Gwaii. The Commercial Bear Viewing Association of BC includes several marine wilderness tour operators which access bear viewing sites by water. Some of these operators belong to the aforementioned organisations and/or the Wilderness Tourism Association (WTA).

Data status: Soundwatch and Straitwatch, research and monitoring organisations, record whale watching boating traffic in the southern Strait of Georgia and Johnstone Strait areas. The BC Cetacean Sightings Network also possesses data on whale watching effort. User group representatives have also suggested other means of representing areas important to their use, such as mapping resident killer whale summer habitat. No known data exists which identifies areas of importance for coastally-accessed bear viewing sites or multi-day marine wilderness tours.

Engagement process: in the absence of coast-wide committee meetings, the BCMCA has contacted representatives of the regional organisations and the WTA to introduce the project and inquire how best to represent their marine use. The BCMCA has also contacted the BC Cetacean Sightings Network, Soundwatch, and Straitwatch. Plans and development of any spatial information would be provided for review by regional associations.

Recreational boating

Representative bodies: the Regional Recreational Boating Advisory Committee brings government agencies and users together 1-2 times each year. The BC Marine Trades Association represents the recreational boating industry while the Council of BC Yacht Clubs focuses more on representing private recreational boating interests through their affiliation with specific boating clubs and facilities. The Canadian Power and Sail Squadron is a recreational boating educational body. The Georgia Strait Alliance, a non-governmental organisation, also works extensively with recreational boating programs.

Data status: a line map representing recreational boating routes has been obtained from the BC CRIMS site. The map does not include routes in the Strait of Georgia or on the west coast of Vancouver Island.

Engagement process: general process model. The BCMCA has contacted the RRBAC which has directed the BCMCA to appropriate representatives within the organisations mentioned above.

These representatives have been contacted by the BCMCA to introduce the project and determine how they wish to be involved. The BCMCA and RRBAC have also discussed using the RRBAC November meeting as an opportunity to review the data assembled.

5.2.6 Shipping and marine transportation

Representative bodies: the Council of Marine Carriers represents BC tug and barge operators and the Chamber of Shipping of BC represents the international shipping community (bulk, cargo, tanker). Two kinds of passenger vessels are also included in this sector: BC Ferries, which is the primary provider of marine passenger transportation services and the large cruise ship industry, which is represented by the NorthWest CruiseShip Association (includes US and Canadian members) and Cruise BC.

Data status: several data sets exist that represent the activities of these user groups. Vessel traffic densities for five classes of large marine vessel traffic (fishing vessels, passenger vessels, tankers, cargo vessels, and tugs) have been developed for summer and winter seasons based on Coast Guard Marine Communications and Traffic Services tracking data for vessels over 20 metres in length. Existing maps of vessel density are based on 2003 traffic data. The BCMCA has arranged for a new set of summary maps based on 2007 data – the only other year for which 12 months of data is available. Environment Canada, in collaboration with the Chamber of Shipping, is developing maps that identify the density of carbon emissions associated with international shipping traffic. Similar work for tug and ferry traffic is in early stages and will not be complete in time to incorporate into BCMCA atlases. Line map layers for ferry and cruise routes have also been obtained from the BC CRIMS site. The map representing ferry routes is incomplete and inaccurately depicts some routes.

Engagement process: representative organisations have been contacted to introduce the project and invite feedback on how organisations would like to be involved. Next steps will be to prepare maps and arrange for their review by user group representatives.