NATIONAL INDIGENOUS FISHERIES INSTITUTE
INSTITUT NATIONAL DES PÊCHES AUTOCHTONES
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Marine Spatial Planning
Technical Assessment Report

MESSAGE FROM THE INSTITUTE

There are many demands on today's oceans. Fishing, aquaculture, shipping, oil and gas exploration, renewable energy, eco-tourism, and other industrial and recreational activities all compete for space in ocean areas, which are essential to marine life and biodiversity.

Effective management of competing interests in Canada's oceans is critical to protect the marine environment and the health of oceans resources. Marine spatial planning is an internationally recognized approach for integrated oceans management in today's world.

> Marine spatial planning is about organizing where and when human activities may take place to balance the needs of nature, coastal communities, and industries.

Marine spatial planning requires collaboration across all levels of government – federal, provincial, territorial, municipal, and Indigenous – when making decisions. It also requires collaboration amongst those who benefit from industrial activities in the oceans and those with an interest in preserving oceans health and diversity for future generations. These are the core elements of oceans co-management.

Fisheries and Oceans Canada has committed to strengthen its relationship with Indigenous peoples based on the recognition of rights, respect, co-operation and partnership. The Department is advancing this commitment by engaging and involving Indigenous leadership, such as the Assembly of First Nations and the Inuit Tapiriit Kanatami, in marine spatial planning at the governance levels.

> There must also be appropriate involvement of Indigenous groups, communities and people in technical activities.

The National Indigenous Fisheries Institute is a technical organization that promotes consistency and standards across Fisheries and Oceans Canada's Indigenous programs and practises. Our purpose is to work with communities, groups, regional organizations, and government agencies to maximize the benefit of oceans, fisheries, and other aquatic management programs and initiatives to Indigenous peoples.

Between May 2017 and May 2019, the Institute collaborated with the Department to review five programs, including the Aboriginal Aquatic Resource and Oceans Management Program. During this review, we learned that aquatic resource and oceans management groups (hereafter referred to as AAROMs) want to be more involved in oceans management activities. In particular, they want to fill technical data gaps, have a real and meaningful role in decision-making, and be able to inform decisions with Indigenous knowledge and western science.

> Marine spatial planning is an opportunity to advance these aspirations.

The Department asked the Institute to build on the information gathered during Indigenous Program Review by engaging AAROMs and communities in discussions about their technical capacities and technical capacity needs to meaningfully participate in marine spatial planning.

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A discussion document was first developed to explain marine spatial planning in general and the potential technical roles, tools and training involved. We then hosted workshops to further explore these topics with Indigenous governments, groups and communities with varying experiences in oceans management, marine protection, and marine spatial planning activities.

In addition to a pre-workshop event for AAROMs in Kelowna, we held workshops in Vancouver, Nanaimo, Moncton, Halifax, and Goose Bay. We also conducted one-on-one interviews with representatives of groups and communities who were unable to attend a workshop. In the end, more than 40 people were engaged, including representatives of 16 AAROMs and 12 communities, and officials of two Indigenous governments.

Input we received during our engagement guided the development of this technical capacity needs assessment final report, including our recommendations to the Department to ensure communities across Canada have the same access to resources to be involved in marine spatial planning activities.

Indigenous communities have long managed marine and coastal areas in their traditional territories. They also have a history of collaborating to share the wealth of oceans spaces with multiple interests, while protecting the marine environment as well as the aquatic plants and species that depend on it.

> Being involved in marine spatial planning is another way for Indigenous peoples to continue this legacy.

National Indigenous Fisheries Institute
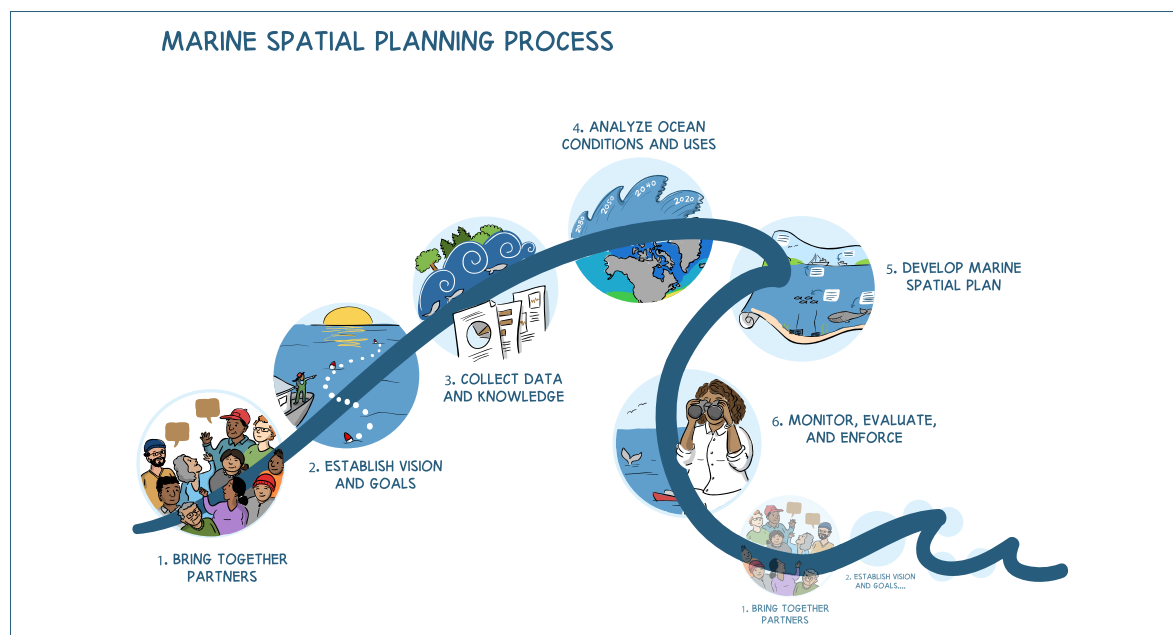## Board of Directors

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MARINE SPATIAL PLANNING PROCESS

EXECUTIVE SUMMARY

Fisheries and Oceans Canada has multi-year funding to help Indigenous groups and communities across Canada build their oceans management technical skills and capacities to be involved in marine spatial planning. This is about aligning future activities over the long term to ensure national standards are in place with previously established initiatives.

The technical aspects of marine spatial planning are largely focussed on three activities:

- collecting data and knowledge
- analyzing oceans conditions and uses
- monitoring, evaluating and enforcing the management measures outlined in the marine spatial plan

The National Indigenous Fisheries Institute was asked by Fisheries and Oceans Canada to assess the interest, capacity and expertise of Indigenous groups and communities to participate in the technical aspects of marine spatial planning. At the same time, we were asked to report back on the technical capacity needs of these groups and communities — and to make some general recommendations for the Department to consider.

We found that there is a lot of technical capacity in Indigenous groups, governments and communities on which to build further expertise related to marine spatial planning's technical aspects. We were also able to identify the roles, tools and training required by these groups and communities to be better equipped for marine spatial planning activities in marine bioregions across Canada.

As a result of this work, we recommend that Fisheries and Oceans Canada:

1   Build and retain technical capacity by collaborating across the Department to establish a long-term source of training funds, to maximize training outcomes, and to enable sharing of professional development tools, while supporting outreach programs, holding joint training opportunities, and measuring the results of marine spatial planning technical capacity-building funding over time.

2   Leverage program dollars by collaborating across government to achieve economies of scale for tools, to help fund more fishery guardians, to determine options for vessel procurement and to map marine-related training, among other activities.

3   Encourage partnerships by continuing to support Indigenous exchanges, science-to-science 'field' partnerships, and investments in Indigenous knowledge systems, among other activities.

4   Meet the shared interests of Indigenous groups, governments, and communities to learn from the experiences of others, receive consistent and dependable funding, be able to protect their fisheries and aquatic resources, and be approached by governments involved in oceans and marine issues in a coordinated way.

TECHNICAL CAPACITY AND EXPERTISE

> *"It was an excellent exercise to document what we have and what we have done, when we are in the middle of it we don't always see how far we have come."* [1]

Many Indigenous governments, groups and communities have long been involved in marine use planning, the development of marine protected areas and marine conservation areas, and other oceans management activities. The Pacific North Coast Integrated Management Area partnership that started between Pacific North Coast Nations, the Province of British Columbia and Fisheries and Oceans Canada, and the subsequent management plan, are prime examples.

During engagement sessions, we learned about other oceans management activities in which AAROMs, Indigenous governments and communities have participated or initiated or are presently working on, including:

- traditional use studies and current marine use data collection and mapping
- special marine areas guide (with Canadian Parks and Wilderness Society)
- national marine conservation area development (with Parks Canada)
- offshore marine protected partnership (among Indigenous partners)
- marine use planning for community plans and regional plans
- marine protected area development and areas of interest activities
- coastal zone planning with partners (funded by Western Economic Development)
- marine environmental assessment activities related to offshore drilling
- maritime awareness information system pilot program (with Transport Canada)
- awareness session to understand marine traffic and marine shipping risk

Clearly, there is technical knowledge, capacity and expertise on which to build. A brief assessment of current capacity levels by roles, tools and training, as well as partnership examples, is described below.

[1] Participant in the *Assessing Indigenous Technical Capacity* workshop in Nanaimo on April 25, 2019.

Technical Roles

> *"We tend to work as a team, not in specific roles. We break out in small groups to do the technical work required for each project."* [2]

AAROMs, Indigenous governments and communities have strong Indigenous knowledge collection expertise and, in most cases, strong data collection expertise. These activities may be undertaken by a community or traditional use coordinator, communications officer, guardian, fishing captain, research assistant or other staff member. Often this work is informed by an Elder or Matriarch advisor or committees. In some cases, the roles are filled by a separate communication, cultural or research department in the group or community.

Many AAROMs have one or more in-house biologist or ecologist. Most communities rely on a biologist in their AAROM group or will contract the services of a biologist or other environmental scientist when needed. While there is strong capacity and expertise related to Indigenous knowledge collection, scientific and other technical data collection, and biology- or ecology-related research activities, we learned that this largely relates to fisheries and may require marine-focussed capacity building. Indigenous groups and communities also largely lack data analysis capacity and in-house expertise.

› **Best Practice:** Nunatsiavut Government has a research manager who reviews all incoming research applications to ensure that they include a capacity-building component.

Many AAROMs have geographic information systems (GIS) and mapping capacity and expertise, including some with GIS departments. There are also some communities with in-house GIS capacity, but this staff member may be focussed on land claims. Others may have GIS technology, but lack sufficient staff or trained staff to use it.

Indigenous governments, groups, and communities have capacity and expertise planning for sustainable economic activities in marine, coastal and riparian areas, such as fisheries and aquaculture operations. There is also a lot of project-based capacity and expertise to deal with environmental referrals, such as environmental technicians and officers, and growing expertise related to coastal habitat restoration.

› **Best Practice:** Targeting Coastal Restoration Funds to AAROMs and Indigenous governments and communities is helping to build their technical capacity to be involved in marine spatial planning and other marine- and habitat-related activities.

Some Indigenous governments and communities have fishery guardians and/or other guardians, monitors or stewards to protect and restore aquatic and in-land resources. In some cases, guardians are the staff responsible for collecting Indigenous knowledge and technical data. AAROM groups in Atlantic Canada may also have community guardian coordinators.

Overall, we learned that AAROMs and communities typically have multi-skilled (generalist) employees in which to involve in various technical projects, according to funding programs. This enables groups and communities to offer more employment stability. Because they are largely dependent on funding programs, in-house proposal writing capacities may also be well developed in some groups and communities.

6   [2] Participant in the *Assessing Indigenous Technical Capacity* workshop in Halifax on March 20, 2019.

Technical Tools

Indigenous knowledge is recognized by AAROMs, Indigenous governments and communities as a key tool for marine spatial planning and other oceans management activities. Some groups and communities have georeferenced this knowledge to produce maps either manually using Mylar over geographical maps or digitally. More than one AAROM has completed, or is in the process of completing, a marine atlas which identifies traditional and contemporary sites of importance to member communities. Many governments and communities have also completed traditional use studies, community coastal resource inventories, Indigenous knowledge catalogues or other historical publications which they use to compare to present-day research or to describe and contextualize the use and interests of their community in relation to a proposed project.

The protection of Indigenous data and knowledge is an equally important tool for AAROMs, Indigenous governments and communities. Some groups and communities have established a sharing protocol or policy to protect their Indigenous knowledge – and are willing to share it with others. The Inuit Nunangat also has a *National Inuit Strategy on Research* and is presently working on a data sovereignty strategy to help Inuit communities protect their knowledge and data.

› **Best Practice:** *The Atlas of Mi'gmaq and Maliseet St. Lawrence marine sites and their uses by the Gesgapegiag, Gespeg and Viger communities* helps communities plan a rapid and effective response to an incident, such as an oil spill, and make decisions related to consultation processes and development initiatives.

› **Best Practice:** Unama'ki Institute of Natural Resources has a well-defined protocol regarding the collection, storage, immediate and future use(s), and protection of Indigenous knowledge gathered for each project. This includes consent forms and a process for Indigenous leadership to approve interview questions during an ethics review.

› **Best Practice:** Mi'gmawe'l Tplu'taqnn Incorporated developed the *New Brunswick Mi'gmaq Knowledge Study Guide* with the support of Mi'gmaq and Wolastoqiyik Elders and knowledge holders to guide the initiation, timing and execution of Indigenous Knowledge Studies within the Province.

Some AAROMs, Indigenous governments and communities have a range of other technical tools to be involved in marine spatial planning, including GIS mapping systems, data collection assets, and community-specific assets. However, there is not a consistent set of tools between groups or communities.

[3] Participant in the *Assessing Indigenous Technical Capacity* workshop in Moncton on March 19, 2019.

Technical Training

There are many environmental and resource management training courses to prepare monitors, guardians, stewards, and other technicians to collect data relevant to marine spatial planning. These courses are available through universities, colleges, associations, and other education facilities, such as:

- First Nations Stewardship Technical Training certificate (Vancouver Island University)
- Environmental Technician Certificate program (Vancouver Island University)
- Traditional Ecological Knowledge certificate (University of Northern British Columbia)
- Professional Specialization in Collections Management (University of Victoria)
- Environmental Technology diploma (New Brunswick Community College)
- Environmental and Regulatory Compliance Project Management (Newfoundland and Labrador Environmental Industry Association)

Specific training has also been developed to advance the environmental work of Indigenous guardians and technical staff who are responsible for Indigenous knowledge collection and working with Elders, such as Eco-Canada's BEAHR Indigenous training programs and Cape Breton University's Learning from Knowledge Keepers.

Personnel working in AAROMs, Indigenous governments and communities have taken many of these courses. They have also often taken vessel safety-related courses, including those offered through other Fisheries and Oceans Canada Indigenous programs.

> **Best Practice:** Innu Nation, Saint Mary's University, Gorsebrook Research Institute and Environment Canada collaborated to develop the Innu Nation Environmental Guardian training program, featuring multiple ecosystem, wildlife, migratory bird, and ethnography modules, along with courses in statistics, geology, fieldwork and the transfer of knowledge.

> **Best Practice:** Uu-a-thluk provides Nuu-chah-nulth post-secondary students enrolled in science programs with hands-on learning through summer internships. This gives youth a chance to work and gain experience under the guidance of supportive role models.

In some cases, staff in Indigenous groups, governments and communities also have advanced degrees in science, such as biology, and/or diplomas in geographic information system or spatial mapping systems. These programs are available through universities, colleges and technical institutes, such as:

- Marine Spatial Planning and Ocean Mapping (Marine Institute, Memorial University)
- Geomatics/Surveying (College of the North Atlantic)
- Certificate in Geographic Information Science (Dalhousie University)
- Advanced Diploma in GIS (British Columbia Institute of Technology)
- Certificate in Spatial Information Systems (Simon Fraser University)

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[4] Participant in the *Assessing Indigenous Technical Capacity* workshop in Nanaimo on April 25, 2019.

Partnership Examples

There are many marine partnerships which involve AAROMs, Indigenous governments and communities, along with non-Indigenous governments, non-governmental organizations, industries, and/or academic institutes. These include, for example:

- Pacific North Coast Integrated Management Area
- Marine Plan Partnership for the North Pacific Coast
- Coast-wide co-management framework for an offshore Pacific marine protected area
- Aboriginal Mapping Network
- Beaufort Sea Partnership
- Oceans Tracking Network salmon tracking partnerships
- Bay of Fundy Ecosystem Partnership
- Centre for Indigenous Environmental Resources' Polis Project on Ecological Governance
- Akami-Uapishkᵁ-KakKasuak-Mealy Mountains National Park (coastal and offshore components)
- Imappivut Marine Plan
- Integrated Coastal and Oceans Management Newfoundland and Labrador

> **Best Practice:** A number of AAROMs, Indigenous governments and communities use Indigenous businesses for marine-related services, such as Membertou Geomatics Solutions, Mi'kma'ki All Points Services Society, and Bird's Eye Incorporated.

> **Best Practice:** Mi'kmaq Confederacy of PEI worked with Fort Folly First Nation in New Brunswick to learn from their experience running a large fish restoration project and how to use tagging antennas.

[5] Participant in the *Assessing Indigenous Technical Capacity* workshop in Goose Bay on April 16, 2019.
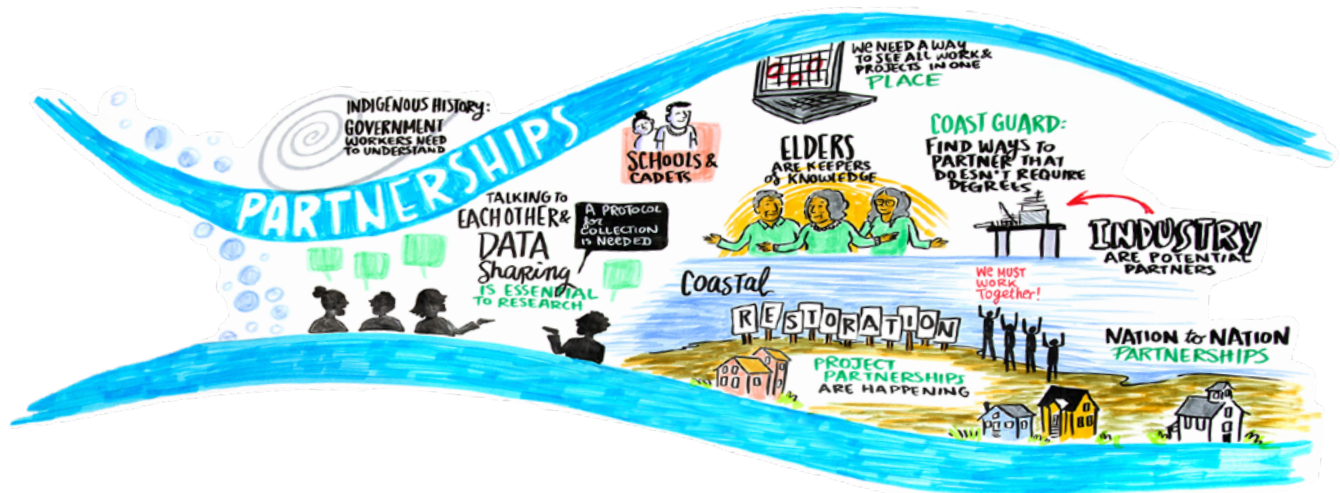
TECHNICAL CAPACITY NEEDS

"If they're going to bring marine spatial planning to [our area], we're going to need funding to build capacity." [6]

While many Indigenous governments, groups and communities have a lot of expertise and have built their capacity to be technically involved in oceans management activities, there are still technical capacity needs across Aboriginal Aquatic Resource and Oceans Management groups (AAROMs) and coastal communities. It is important to understand the capacity needs of both experienced and inexperienced groups and communities.

Technical Roles

"There are many moving parts and we need more people." [7]

AAROMs, Indigenous governments and communities have strong data collection expertise, but they need to build capacity to manage, analyze, and communicate this data at various technical tables. This includes building capacity to spatially analyze data in order to assess how current, potential and future marine activities may impact marine resource use in traditional territories. Some also want more technical staff on their teams so they can conduct more interviews and collect more data.

Many communities have fishery guardians or other guardian-types staff, such as monitors or stewards, but often they lack sufficient funding to offer these employees full-time positions, and this leads to retention issues and ongoing training needs. Some are willing to share guardians with neighbouring communities. There is also support to build the capacity of guardians to enforce marine spatial planning rules.

In some cases, AAROMs and communities do not have in-house GIS expertise, so they rely on external consultants hired on a project or ad hoc basis. Most groups and communities also want more staff to be GIS proficient.

Other important roles highlighted by groups and communities include: marine planner or other marine spatial planning program manager, information technology and information management expert, marine biologist (as opposed to fishery biologist), risk analyst, and proposal writer.

> **Unique Role:** Indigenous groups and communities have identified the need for outreach activities to direct youth into technical education and career paths in order to build their technical capacity. An education or outreach officer to oversee internship opportunities, mentorships for youth, and general outreach is an important role to fill.

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[6] Participant in the *Assessing Indigenous Technical Capacity* workshop in Halifax on March 20, 2019.
[7] Participant in the *Assessing Indigenous Technical Capacity* workshop in Goose Bay on April 16, 2019.

> **Unique Role:** There is interest in partnering to develop a marine atlas in some bioregions. A steering committee or working group is required for this to happen.

Overall, we learned that AAROMs and communities want more funding stability to offer employment security and stability. There is also a need to consider the preferences of groups and communities to work as a team, so everyone gains experience and has a role to play in the technical activity. This means that one person may not be a project manager or an Indigenous knowledge specialist, but they are experienced in performing both roles, and likely, additional roles.
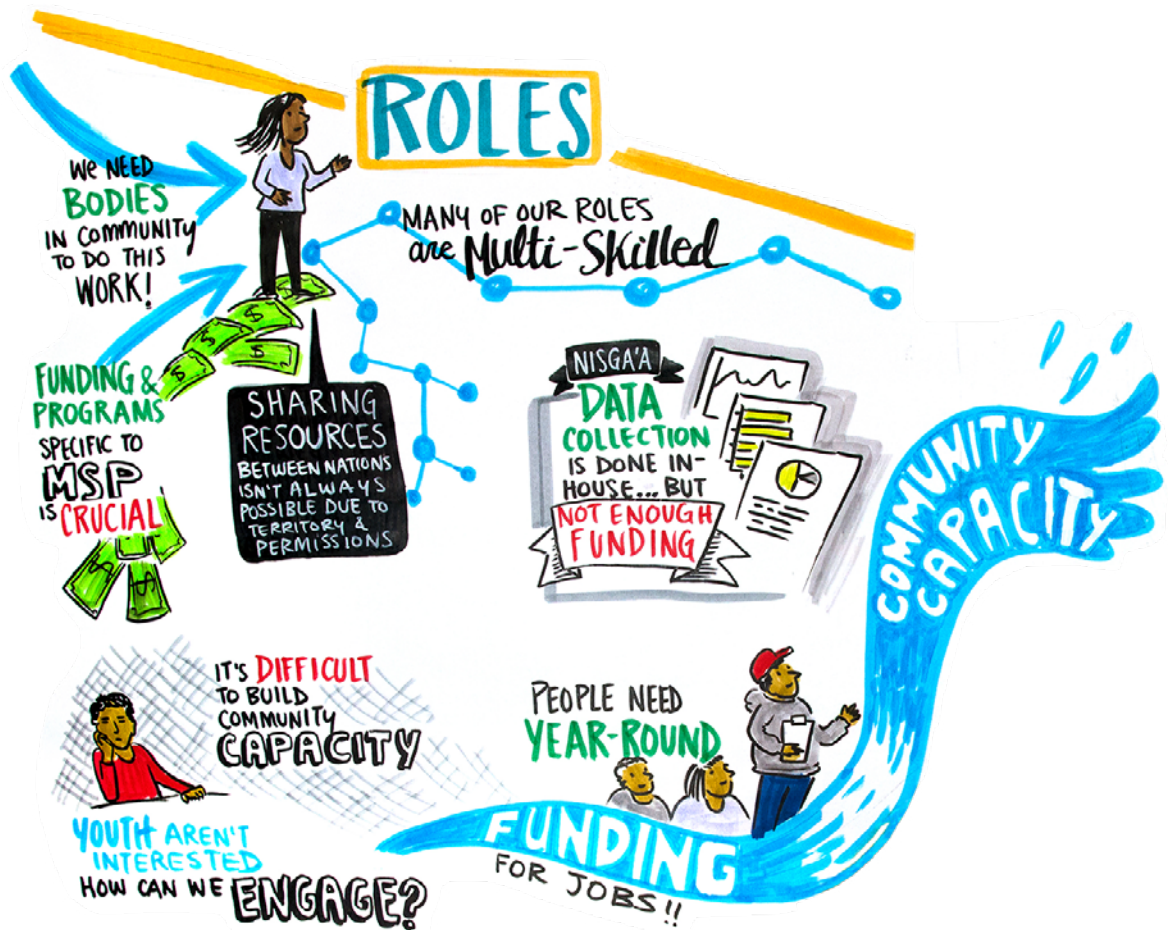
Technical Tools

The protection of Indigenous knowledge and data is a priority for AAROMs, Indigenous governments and communities. Almost all require better databases and data storage software. Many also need a protocol or policy to identify how Indigenous knowledge and data may be shared, which could involve one or more of the following factors:

- how information may be shared with other Indigenous groups or communities
- how information may be shared with non-Indigenous governments, industries or research institutions
- how information may be used and for what duration
- how future requests for additional uses will be handled

AAROMs, Indigenous governments and communities have identified other technical tools which they need to be involved in marine spatial planning. These may be organized to some extent by level of engagement and experience in other oceans management activities:

- Groups and communities with more experience in marine use or marine protected area activities want larger research-based vessels, advanced software programs for environmental and biological modelling, as well as weather stations and more sensitive data collection tools

- Those with some experience in oceans management activities want environmental or biological monitoring and sampling equipment, sensor technologies, various cameras (e.g., underwater, drones, etc.) and collaborative project management software

- Those with limited experience in marine-related activities want updated vessels with advanced navigational instruments (e.g., radar), drones and underwater camera equipment, GIS and web mapping software, and basic support tools (e.g., ink for mapping printers)

› **Unique Tool:** Several groups and communities view automated identification systems (AIS) and AIS shore-based infrastructure to be key tools for marine spatial planning. This vessel tracking system automatically provides updates on a vessel's position and other relevant ship voyage data to a marine vessel traffic operator and there is support for AIS equipment to be put on smaller vessels.

Many groups, governments and communities identified the need for more people as another important tool, along with professional development and human resources support tools. There was also some interest in having mobile tracking devices for data collection.

There are opportunities to share some tools between groups and among communities. At several engagement sessions, for example, participants identified tools that they could share or exchange with other participants. This includes software, vessels, sampling equipment and sensor technologies, as well as language interpretation and translation.

[8] Ibid.

Technical Training

"We need to learn faster to inform the government..." [9]

While many persons working in AAROMs, Indigenous governments and communities have taken a wide range of training and higher education courses and degrees related to marine biology, science, GIS, and environmental management, there is an ongoing need for training to be offered to staff in Indigenous groups and communities. Participants in all our engagement sessions noted that only some staff have training to use GIS technologies or degrees in science-related fields and there is strong support for more than one staff person to have equivalent training. This correlates to the preference noted above for groups and communities to have technical staff working in teams and skilled to do multiple tasks.

Among the top training needs, AAROMs, Indigenous governments and communities want more staff to be trained to use specific GIS and mapping technologies. There is also shared support for more training to broaden the duties of guardians, monitors, stewards and other technicians to include environmental monitoring, natural resource management, marine safety, and emergency response. This includes training to use environmental and biological sampling and sensor technologies to increase data collection and water quality testing.

> **Unique Training:** Indigenous governments and communities in Newfoundland and Labrador need ice monitoring training.

> **Linked Training:** Pacheedaht First Nation wants the Department to link training opportunities through its programs to maximize outcomes. For example, a certain amount of at-sea time is required to achieve Fishing Master IV, so if the vessel could go out for marine spatial planning purposes, it would help the captain get at-sea time, even when they are not fishing.

Other training needs correspond to the preferred technical roles and tools of groups and communities. This means training to conduct data analysis, to use database and other advanced software, and to operate underwater cameras and drones. Some groups and communities also point to the need for basic training in computers and report writing, along with completion of grade 12, and communications. Others want trainees in remote communities to be matched with an mentor or expert available by phone or email so they may be called upon to assist in certain situations.

AAROMs, Indigenous governments and communities prioritize outreach programs that encourage younger members to pursue higher education in science and environment-related fields, so they will return to the community to work in these areas. This includes opportunities and funding to be able to run internships and offer mentorships, along with workshops and presentations at high schools.

Groups and communities prefer local training facilities and universities, along with flexible training options, such as online and video courses, and modules offered for shorter periods of time over a year or more. There is also support for joint-training to be offered to neighbouring communities or multiple AAROMs.

[9] Participant in the *Assessing Indigenous Technical Capacity* workshop in Nanaimo on April 25, 2019.

Partnership Opportunities

> *"Working together as coastal Nations is very powerful. We have a vision to tie it all together [because] ecosystem-based management is interconnected."* [10]

AAROMs, Indigenous governments and communities support more networking and partnership opportunities with each other, including through workshops such as those held for the marine spatial planning technical capacity assessment. More than one session in fact resulted in partnership ideas being formulated amongst participants.

Indigenous groups and communities also want opportunities to pursue more partnerships with non-Indigenous governments, academic institutions, and non-governmental organizations and activities, such as:

- Fisheries and Oceans Canada, Canadian Coast Guard, Environment and Climate Change Canada, Natural Resources Canada, Social Sciences and Humanities Research Council, Natural Sciences and Engineering Research Council of Canada, Transport Canada, Parks Canada, and Oceans Protection Plan partners

- University of British Columbia's Indigenous economics expert, University of Victoria's Indigenous knowledge laws expert, and the International Oceans Institute

- West Coast Environmental Law, Oceans Network Canada, Vancouver Aquarium, Raincoast Conservation Foundation, Pacific Foundation, West Coast Aquatic, Clean Foundation, Coastal Stewardship Network, Oceans Advance, Oceans North, and the Capelin Observers Network

> **Unique Partnership Idea:** AAROMs in Nova Scotia discussed some partnership options to develop a protocol for storing and sharing Indigenous knowledge, such as bringing Elders together, working with an academic institution, or linking funding needs to Heritage Canada's Aboriginal Languages Initiative.
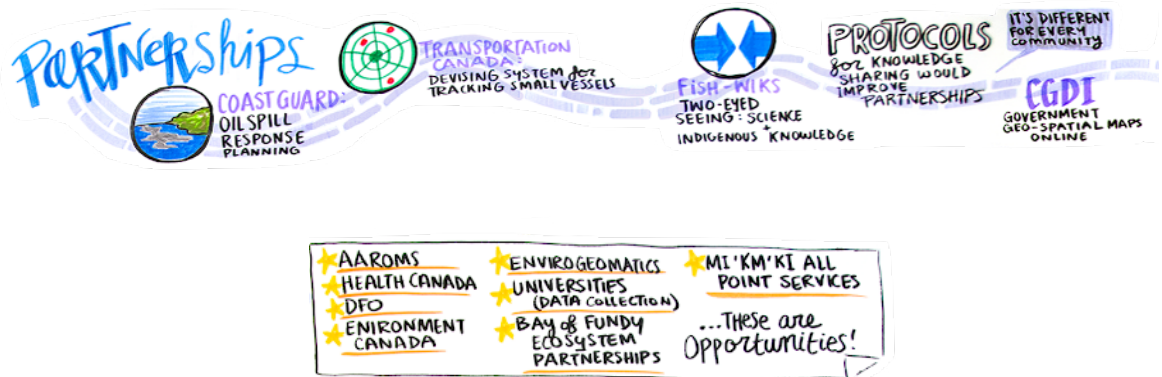
INTEREST

"The long-term ecosystem approach is more important than the 2020 goal – that's not our end game. We don't care if you put a boundary on it, but it doesn't work that way." [11]

In addition to the technical capacity and capacity needs assessment, the National Indigenous Fisheries Institute assessed the interest of Indigenous groups, governments and communities to participate in marine spatial planning by researching their past and current involvement in oceans management activities and probing their interest during engagement sessions.

What we learned is these groups, governments and communities are natural leaders in the protection of Canada's coasts and sovereign marine areas. They also share similar interests in how to continue to advance their technical skills to be involved in marine spatial planning and other oceans management activities:

1 *Learning from the Experiences of Others*

AAROMs, Indigenous governments and communities are interested in learning how other Indigenous governments, groups and communities have participated technically in other oceans management activities. This includes in the development and implementation of marine protected areas, marine conservation areas, marine use plans, marine atlases, marine zoning and marine spatial planning.

Based on our research and engagement, this is a best practice activity that reduces duplication, forges alliances, and enables culturally appropriate adaptations to be made to technical activities by distinct Indigenous peoples.

2 *Consistent and Dependable Funding*

AAROMs, Indigenous governments and communities want consistent and dependable funding for technical capacity-building and retention, as well as outreach programs to attract youth to technical career paths. Most technical staff positions in groups and communities are dependent on one or more projects funded through various contribution programs, which causes employment security and retention issues. Temporary and insecure employment is also less attractive to community members pursuing a career.

Based on our research and engagement, enabling year-round funding for meaningful employment helps attract and retain new talent. There are also best practices being used by AAROMs and some Indigenous communities to steer youth into technical education and career paths that could be shared with others.

[11] Participant in the *Assessing Indigenous Technical Capacity* workshop in Goose Bay on April 16, 2019.

3 *Protecting Fisheries*

AAROMs, Indigenous governments and communities stress the importance of fisheries for the economic, food, and cultural well-being of Indigenous peoples. They are concerned about the impacts that marine spatial planning may have on their fisheries — either by limiting their access to traditional fishing grounds or by favouring large-scale economic activities such as marine shipping or oil and gas exploration when making marine spatial decisions. More than one participant in workshops talked about zoning decisions and fisheries closures being made to protect whales without consultation by the Department.

4 *Protecting Marine Resources*

AAROMs, Indigenous governments and communities are interested in protecting fish and other aquatic resources, along with coastal and riparian habitat, from the impacts of other marine uses. In particular, they are worried about oil spills and other marine environmental damage being done to marine ecosystems on which they depend, with increased marine traffic. More than one pointed to the gaps in marine traffic communications along Canada's coastlines and the need for more automatic identification systems to close this gap.

There is also interest in being more involved in monitoring marine shipping activities and having fishery guardians to monitor and enforce marine spatial plans in their waterways. Some Indigenous governments and communities are currently partners in developing and refining the maritime awareness information system with Transport Canada.

5 *Coordinated Government Approach*

AAROMs, Indigenous governments and communities are concerned about the uncoordinated approach to engagement and programs that government departments and agencies with a mandate for marine management have taken; particularly, for Oceans Protection Plan activities, but also for marine protected and/or conservation areas.

We heard that there is confusion about which federal department is responsible for oceans management and which department is leading operational programming in the marine environment. More than one group and community specifically asked for federal departments to better coordinate Oceans Protection Plan initiatives in the future and for clearer communications materials on these initiatives to be made available.

6 *Indigenous Protected Areas*

There is some interest by AAROMs, Indigenous governments and communities in Indigenous Protected Areas, but the topic has not been well explained in the marine context beyond the Inuit Nunangat. [12]

[12] https://oceansnorth.org/en/what-we-do/indigenous-protected-areas-marine-conservation/

RECOMMENDATIONS

> *"To properly scope out the approach towards this program, discussions and engagement sessions need to take place with communities to determine what direction should be taken."* [13]

Fisheries and Oceans Canada has multi-year funding to help Aboriginal Aquatic Resource and Oceans Management groups (AAROMs) and Indigenous governments and communities build their oceans management technical skills and capacities to be involved in marine spatial planning.

This marine spatial planning program is working to align current and future activities to ensure national standards are in place which build on previously established initiatives. It will also respond to recommendations made by Indigenous groups and communities during Indigenous Program Review to improve the Department's Aboriginal Aquatic Resource and Oceans Management and Aboriginal Fisheries Strategy programs.

Based on this technical assessment report and its experience leading Indigenous Program Review, the National Indigenous Fisheries Institute recommends that Fisheries and Oceans Canada take steps to:

- build and retain Indigenous technical capacity to participate in marine spatial planning
- leverage program dollars for these activities by collaborating within the Department and externally with other departments and agencies
- encourage specific partnerships

We also recommend that the Department meet the shared interests of Indigenous groups, governments and communities to:

- learn from the experiences of others
- receive consistent and dependable funding
- be able to protect fisheries and marine resources
- be approached by departments and agencies involved in oceans issues in a coordinated way

> Our suggested actions to achieve these recommendations are described below.

[13] Submission to the National Indigenous Fisheries Institute from an AAROM group.

To Build and Retain Technical Capacity

> *"There's no solid, consistent funding – it takes three funding proposals each year to fund [staff] so it's a challenge for staff retention. We need permanent funding."* [14]

- Offer AAROMs, Indigenous governments and communities flexibility to fund preferred marine-related roles, tools, and supplies for tools, such as ink and computer hardware

- Fund Indigenous groups and communities to participate in the Canadian Indigenous Mapping Workshop in Inuvik in October and enable future workshops

- Collaborate with the Department's Indigenous Program team and its co-delivery partners as they work to establish a long-term source of funding for training with Employment and Social Development Canada

- Collaborate with the Indigenous Program team to leverage training outcomes across programs, including Indigenous Program Review career progression activities

- Enable the sharing of professional development tools, such as technical job descriptions

- Continue to support AAROM and community outreach programs which align education and career progression paths for science, technical 'field' activities, and management, including by funding summer internships and mentoring initiatives

- Collaborate with co-delivery partners to hold joint-AAROM or neighbouring community training related to procured tools (e.g., software, data storage, sampling equipment, etc.)

- Use this assessment report as a baseline of the technical capacity level of AAROMs and communities to be involved in marine spatial planning and regularly measure capacity improvements and employment quality over the course of this program

[14] Participant in the *Assessing Indigenous Technical Capacity* workshop in Goose Bay on April 16, 2019.

To Leverage Program Dollars

> *"Per head funding doesn't work for oceans management. It must be by kilometer of coastline."* [15]

- Work with the Chief of Procurement to achieve economies of scale for standardized software, database storage solutions, sampling equipment, sensor technologies, drones, and other commonly required tools

- Work with the Department's Indigenous Program Team to help fund the development of fishery guardian programs in more communities for marine spatial planning enforcement; especially, in smaller coastal communities in British Columbia and along the St. Lawrence estuary in Quebec

- Collaborate with Environment and Climate Change Canada, the Canadian Coast Guard and Transport Canada to determine options for acquiring weather and automated identification system stations

- Collaborate with Indigenous Programs, Oceans Ecosystems Science, the Canadian Coast Guard, Transport Canada and other partners to determine options for vessel procurement or vessel navigation upgrades

- Raise awareness and promote AAROM services and network with Ocean Protection Plan partners and other levels of government involved in marine-related activities

- Use common requirements for training across AAROMs and communities as a pilot initiative within the Department's efforts to pursue a long-term source of training funding

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[15] One-on-one interview with the marine biologist for two First Nations on May 24, 2019.

To Encourage Partnerships

"There are a lot of ships in the St. Lawrence and no government-wide approach to manage them." [16]
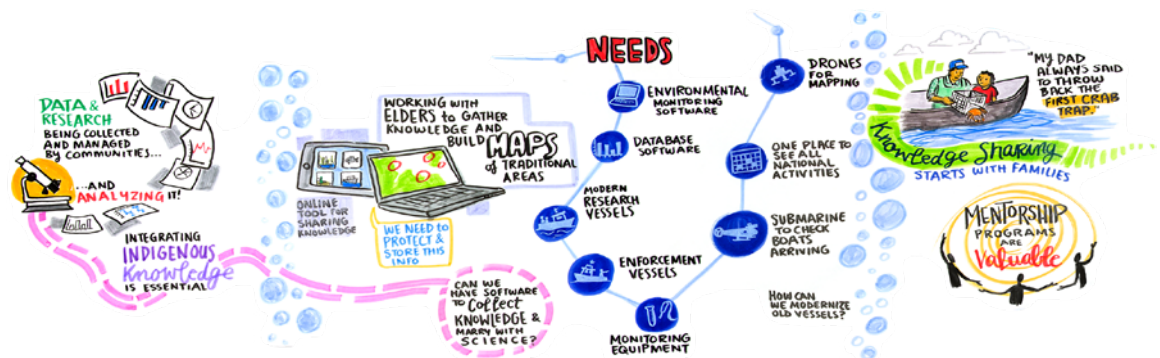
- Continue to support AAROM and community exchanges and networking opportunities which encourage sharing, collaboration and partnering, including through the recommended national, accessible database

- Collaborate with Indigenous Programs and Oceans Ecosystems Science to enable science-to-science 'field' partnerships, access to labs, and equipment sharing

- Continue to invest in Indigenous knowledge systems and enable networking opportunities among groups to learn from established protocols and other best practices

- Engage Indigenous communities in the co-development of other ways for Indigenous knowledge to be properly used in management decisions

- Build on data-sharing agreements being used by other sectors of the Department

- Collaborate with Natural Resources Canada to promote the Open Government's inventory of geospatial maps with AAROMs and communities and ensure it is linked from the recommended national, accessible database

- Co-develop with appropriate Indigenous partners what an Indigenous Protected Area might entail in marine environments

- Collaborate with other departments and agencies involved in oceans and marine-related activities to build more awareness about marine spatial planning

[16] Participant in the *Assessing Indigenous Technical Capacity* workshop in Moncton on March 19, 2019.

To Meet the Shared Interests of Indigenous Governments, Groups and Communities

> *"We need to coordinate the efforts of all the Nations to get more advanced so the project [opportunities] come to our communities to do."* [17]

- Compile a national, accessible database listing all marine-related software and tools that AAROMs have and the projects completed and/or in which they are presently engaged

- Connect funding for marine spatial planning related staff (i.e., offering a choice of roles) directly to AAROM or Aboriginal Fisheries Strategy contribution agreements [18]

- Fund traditional use studies in areas without this information to help communities establish a baseline

- Work with other federal departments; especially, those involved in the Oceans Protection Plan, to establish a consistent, government-wide approach to communicate with and engage AAROMs, Indigenous governments and communities

- Address marine resource protection concerns at the governance tables with the Assembly of First Nations and Inuit Nunangat activities

[17] Ibid.

[18] May need options when the c.a. is with a Tribal Council or when a community does not participate in these programs.

Marine Spatial Planning Technical Assessment
Outreach Statistics • January 24 – May 27, 2019
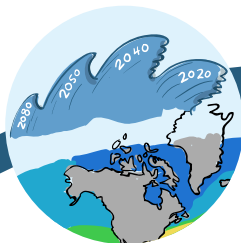
partnerships

Engagement
More than 40 participants
Sixteen AAROM representatives
Twelve communities
Two Indigenous governments

"THANK YOU FOR THE OPPORTUNITY TO ATTEND, it was really great to hear other Nations' processes and progress."

roles

"This is the first time that we've all been able to engage like this – DFO has never done it this way."

Social Media
Twitter: 129 followers
Facebook: 23 followers
Activity: 75 tweets, 35 posts
YouTube: 77 video views

Website
456 users
2,238 page views
2.12min average sessions

training

Engagement
One pre-workshop event
Five workshops
Two interviews
One submission

"We appreciated the opportunity to have a say on an important issue like marine spatial planning."

tools

NATIONAL INDIGENOUS FISHERIES INSTITUTE