

Summary

Background

Diminishing sea ice and development pressures have led to increased Arctic shipping, which in turn increases the risk of oil spills from ships. The impacts of a spill would be borne by the communities in the region, who depend on healthy and clean marine waters for the majority of their food. Despite the severe consequences of a spill to local communities, many in the north have had limited input into oil spill response planning.

The *Arctic Shipping and Oil Spills Learning Exchange for Communities* was convened by WWF-Canada to connect Inuit leaders and community members from Nunavut and the Inuvialuit Settlement Region with Indigenous community leaders from British Columbia and the north western U.S. to engage in a dialogue about community-based preparedness for Arctic shipping emergencies and oil spills. The workshop focused on peer-to-peer knowledge exchange and transferring lessons learned from communities with a range of past experience dealing with shipping risks and oil spills.

The Moore Foundation and the Government of Canada provided funding and support for the three-day Learning Exchange, which took place November 1-3, 2017 in Iqaluit, Nunavut. Nuka Research and Planning Group, LLC was contracted to facilitate the dialogue and develop these proceedings. WWF-Canada staff provided support through all phases of the planning, and an Advisory Group comprised of federal agencies, community representatives, and subject matter experts met via teleconference five times between May and October 2017 to guide the planning process. A full list of participants is included at the end of this report.

This report summarizes the Learning Exchange and includes a record of discussion that synthesizes key concepts. A separate workshop summary recounts the Arctic Shipping Air Emissions presentations and discussions from November 3, which directly followed the Learning Exchange and involved many of the same participants.

Workshop Objectives

The following objectives guided the Learning Exchange:

- Identify Arctic shipping oil spill risks and ways for communities to prepare for them
- Review what is already in place to support Canadian Arctic communities
- Share knowledge and experience between Arctic and west coast communities
- Identify ways that communities can enhance their preparedness for emergencies from increased Arctic shipping

Outcomes

Four key outcomes were identified during the planning stages: (1) compiling knowledge and experience; (2) identifying gaps in planning, preparedness, equipment, or training; (3) fostering an open dialogue among all participants; and (4) identifying best practices for community-based preparedness for shipping risks and oil spills.

Compiling Knowledge and Experience

Participants in the Learning Exchange represented a range of knowledge and experience with shipping, oil and gas development, regulatory oversight, and consequence management. A great deal of discussion, both

in full group sessions and in smaller breakout groups, focused on inventorying the plans, programs, systems, governance structures, regulations, and equipment that are already in place across the Canadian Arctic. Participants from northern communities had the opportunity to learn more about the federal government's existing capabilities and intended improvements under the Oceans Protection Plan, while also sharing their perspective on what is most important and useful to communities in the north. Participants from British Columbia and the northwestern U.S. provided firsthand accounts of how oil spills and shipping initiatives had impacted their communities, and the actions that they have undertaken to enhance their own preparedness. Several key themes emerged.

Indigenous communities are substantial knowledge-holders

Most of the information that would be needed to support oil spill response planning and decision-making is resident in the communities. Local Hunting and Trapping Organizations and the people they represent know a great deal about wildlife movements, the logistics of accessing sites on land and water, the range of environmental and weather conditions that may be encountered, and the seasonality that defines many aspects of Arctic ecosystems. There is also substantial Traditional Knowledge available in Inuit communities that is directly relevant to any oil spill preparedness activity. This knowledge may not necessarily be collated in a manner that makes it accessible to other levels of government, and it would be very difficult to organize and communicate this information at the time of an oil spill response.

Indigenous communities are particularly vulnerable to oil spill impacts

Nearly all of the participants who represented indigenous communities – Inuit, First Nation, or U.S. tribe – described strong connections between the natural environment and their community well-being. There were many examples provided regarding how past oil spills had interrupted access to local foods, such as tainted clams and contaminated seal meat. Indigenous communities in general, and Arctic indigenous communities in particular, are disproportionately harmed by any pollution event that impacts or even creates the perception of impacts to subsistence foods.

Capacity gaps also exist south of the 60th parallel

Several participants from Arctic communities expressed surprise and disappointment when hearing about recent case studies from oil spills in British Columbia and the U.S. Even in these comparatively populated areas with greater industrial activity and better access to equipment, the case studies presented by the Learning Exchange Expert Panel described response delays, challenges accessing equipment, unclear decision-making roles and framework, and the polluter withholding compensation for response costs.

ISR communities hold knowledge and experience from oil and gas operations

The risks of oil spills in the north is not new, and communities from Canada's western Arctic have been addressing these issues for many years in the context of oil and gas operations in that region. While they have been fortunate not to have experienced any major marine oil spills, they have experience in planning and preparedness that could be transferred or applied to shipping risks across the Arctic.

Identifying Gaps in Planning and Preparedness for Arctic Shipping Oil Spills

Background information that was provided through the Participants Guide and the WWF-Canada report on a Framework for community-based spill response capacity in Nunavut emphasized the cycle of preparedness, and the important linkages between risk evaluation, plan development, stockpiling resources, implementing a response, and building in feedback mechanisms to learn from experience. Gaps were identified in each of these areas.

Communities need more information about the risks from Arctic shipping

Participants identified gaps in how northern communities can access information to accurately understand and anticipate risks. Communities would like better access to information about the types of vessels transiting northern waterways, including their typical routes, what they are carrying onboard (fuel and

cargo), whether they are carrying any emergency or spill response resources with them, whether they are visible to AIS receivers, whether they are ice-capable, and whether the Coast Guard is tracking and monitoring their activities. Communities would also like more information about the types of pollution streams from cruise ships and other vessels operating in the north. There may be regulatory gaps that are limiting the ability for the government to track discharges or to prevent vessels from discharging certain materials (such as grey water, sewage, or ballast water) in Arctic waters.

There is a gap in the information available to understand, assess, or anticipate how an oil spill would impact local foods and food security. There are gaps in marine charts across the Arctic, and this lack of accurate and complete charting creates a risk factor for oil spill occurrence, and may also complicate the response process.

An Arctic oil spill response regime should address worst case scenarios from shipping traffic

Participants identified gaps in how northern communities can plan and prepare for the worst case scenario that might occur. This includes defining “worst case” based on the volume of oil that is carried on ships now and into the future, and identifying other factors that would contribute to adverse impacts to high value resources.

It is unclear what capacity is currently in place in the north and how large a spill could be handled. Preparing for the worst case requires an understanding of the effectiveness of various response systems and resources on different types of oil. Communities recognize that there are limits to the technologies available to clean up oil spills in Arctic waters, and that there may be long periods of time during which no response would be possible. More information is needed about the capabilities and limits of technology and equipment to mitigate oil spill impacts.

There are gaps in baseline data about resources at risk and no clear process for communities to prioritize areas or resources that are particularly vulnerable to oil spill impacts. There is no clear mechanism for incorporating community priorities and local and Traditional Knowledge into federal, industry, regional, and local spill response plans and preparedness initiatives.

Ships operating north of the 60th parallel are not subject to federal requirements for a Response Organization (RO), as are vessels operating in the south. This creates a significant gap in equipment and capacity north of 60.

Communities want to play an active and ongoing role in preparing for and implementing an oil spill response

Participants identified gaps in how northern communities can train and equip themselves to manage the impacts of oil spills, and then implement these capabilities during a spill. These include the obvious need to supply communities with oil spill response equipment and infrastructure sufficient to take action to mitigate an oil spill during the time required for outside resources to arrive. An important component of this process involves updating the Coast Guard equipment caches (sea cans) by establishing a comprehensive program for sea can labeling, inventory, access, resupply, maintenance, and inspection.

Plans and procedures are needed to outline how the sea cans are meant to be used, the notification process, and how these resources fit into the broader oil spill response context in the north. This is part of a broader need to establish a shared understanding about the roles and responsibilities for different levels of government and the shipping industry for Arctic shipping oil spills, including how communities are incorporated into both planning and response. Communities do not necessarily know when Coast Guard vessels will be in their vicinity, and they do not have a clear picture of the timeframe or logistics that are in place to support the delivery of Coast Guard resources in the event of a larger spill. There may be a time and resource gap between what can be accomplished with local resources and the next phase where

outside resources are brought into the area. Including communities in oil spill simulations and drills to practice how these different layers come together might address some of these gaps.

There may be significant gaps in preparedness and response during winter months compared to summer, based on availability of Coast Guard vessels, challenges transporting equipment, impact of sea ice and darkness to response effectiveness, and responder safety issues. Communities recommend developing different oil spill response plans for winter vs. summer seasons.

There appear to be gaps between community capacity-building initiatives envisioned under the Oceans Protection Plan and existing initiatives ongoing in communities. There are also gaps in how relationships are institutionalized to support preparedness and response, particularly among different departments and levels of government. There is a need to align oil spill preparedness efforts with other initiatives and programs already in place in communities, such as rangers, search and rescue groups, fire departments, Inuit marine monitors, and environmental technology programs through the Arctic College. An iterative process with two-way communication and coordination could address some of these gaps.

Preparedness gaps also include supplying communities with equipment and tools to monitor and sample oil spills, supported by a clear process for incorporating local sampling into the broader response, and ensuring that the results are transparent to communities. Communities also see a need for a community-to-community early warning system to alert downstream communities when a spill is traveling their way.

In order to improve on the current state, we must learn from experience

Participants identified gaps in how northern communities can apply lessons from past experiences (including those from other regions of Canada and the U.S.). A major gap relates to ensuring that there is a compensation regime in place to cover all community costs associated with oil spill response, to assess and remediate damages, and to cover claims and compensation for injured parties.

The predominantly top-down approach to oil spill preparedness is seen as another gap that must be filled to support community-based capacity. Communities recommend “decolonizing” the process of oil spill preparedness and response so that communities are not overly reliant on plans, equipment, and programs that are beyond their access or control. There are also gaps in time and funding that will create challenges for building capacity, so it is important to empower community leaders to take actions in the near term while building capacity in the long term.

Opening Dialogue

Participants in the Learning Exchange were broadly supportive of the overall approach, which emphasized open dialogue and listening to all voices in the room. In that spirit, participants identified several opportunities to continue the dialogue beyond the Learning Exchange to support building community capacity for Arctic shipping oil spills.

The importance of two-way communication was emphasized throughout the Learning Exchange. Regional and national government initiatives and programs must be communicated to communities in a manner that allows communities to provide feedback on how these initiatives may or may not support community capacity. While there was considerable discussion about how communities should report oil spills to the Nunavut and federal governments, it became apparent that it was equally important to ensure that regional and federal agencies identify points of contact in each community, and maintain open communication lines on an ongoing basis. Communities expressed a desire to be regularly updated on activities in their region, not just related to spill response but more broadly to scientific research or even enforcement activities.

Beyond levels of government, it is also important that other organizations or institutions working in the space of community oil spill response training and capacity-building occasionally look outward at other programs and initiatives, and seek to align or harmonize rather than creating competition or confusion.

Participants in the Learning Exchange identified at least 10 initiatives – such as Land Use Planning, low impact corridors, regional environmental assessments, environmental reviews, and the Nunavut Spills Working Group – that could support elements of community-based capacity building. More work is needed to map out the connections and relationships between these initiatives.

Communities recognize the critical importance of having a “seat at the table” across a range of risk assessment, preparedness, and response activities, to empower their equal participation in decision-making and support their self-reliance.

Highlighting Best Practices for Communities

The Expert Panel presentations and subsequent group discussions pointed to a number of practices that have been effective in other regions (including the ISR) to enhance community capacity. These include:

- Creating direct communication channels between community leaders/administrative staff and federal agencies (particularly Coast Guard), and having regular conversations and an accountability framework to include local priorities into broader federal initiatives;
- Ensuring that community outreach and engagement efforts are planned and implemented in collaboration with communities, and include an opportunity for community feedback;
- Building capacity around existing, familiar initiatives and institutions that are in place in communities;
- Establishing a shared vision for preparedness goals that address community priorities and concerns;
- Acknowledging risks and uncertainties throughout the planning and preparedness process;
- Enhancing transparency regarding federal government activities and priorities;
- Using regulatory authorities to enhance prevention and preparedness;
- Compiling and collating baseline data through multi-jurisdictional efforts to ensure that local and Traditional Knowledge, and community priorities, are incorporated into federal tools and mapping platforms; and
- Conducting collaborative planning and risk evaluations across levels of government;

Next Steps

Based on the discussion among Learning Exchange participants, there is a strong desire to continue to move forward with community oil spill response capacity-building in Canada’s Arctic. There were several suggestions for how to do this.

Near Term Action Items

Participants recognized opportunities to take some immediate steps toward enhancing preparedness. Some can be initiated by communities directly, while others will require participation or support from other levels of government and/or industry.

- Inventory and prioritize resources at risk (community).
- Institute prevention measures such as pre-booming ships prior to oil transfer or refueling operations (industry, government).
- Begin working on a community oil spill response plan (communities).
- Begin working on an Oil Spill Response Plan for the Northwest Territories and Nunavut (communities, industry, government).
- Inventory sea cans, update signage, develop procedures, deliver training (and keys), supplement with additional resources to address community priorities (Coast Guard, communities).

- Collate some of the work that has already been done in the ISR (oil spill response manual, training courses through Arctic College) and transfer to Nunavut communities (all participants).
- Share information from this Learning Exchange through other forums and look for opportunities to enhance related engagement efforts and synergize with other initiatives (all participants).
- Share Baffinland best management practices for shipping with Learning Exchange participants (Baffinland).
- Collaborate on vessel traffic studies across Nunavut and ISR (communities, government).
- Initiate a community-based initiative to demonstrate how capacity building could be accomplished in the north (community, WWF or other funder).

Long Term Goals

Participants also articulated long term goals and aspirations that would require more time and effort, but that were important to address in order to enhance community-based spill response capacity in the north.

- Build a collaborative governance system for oil spill preparedness and response inclusive of Indigenous communities, regional and federal government.
- Ensure that prevention remains a primary objective in promoting shipping safety and avoiding oil spills.
- Provide northern communities with a seat at the table and a voice in the process of prioritizing initiatives and funding under the Oceans Protection Plan. Establish a shared vision for oil spill preparedness and response goals in the Canadian Arctic and build a framework for collaborative risk evaluation, planning, and preparedness to support a distributed community-based capacity commensurate with risks. Identify policy and regulatory changes needed to support community capacity-building. Create measurable objectives for enhancing capacity, and periodically measure against these to track progress.
- Build community-based oil spill response teams to provide first strike response to oil spills. Connect these teams to the broader regional/federal/industry framework for spill response through training and drills. Include local youth in this process.
- Establish a Response Organization (RO) north of the 60th parallel (may require legislative change).
- Do not underestimate the value of what communities already know and what they are capable of achieving. Instead, look for ways to support them without compromising their self-determination. Formalize connections among northern communities to support mutual aid, cooperative planning, and information sharing. Connect communities with technical experts to support ongoing capacity-building efforts.
- Compile baseline data on harvests, ecological conditions, and other factors relevant to oil spill preparedness and response. Create data that can be accessed and used across platforms by communities as well as other levels of government.
- Identify opportunities for funders and non-governmental organizations to add value to the process of building community capacity without getting in the way.
- Undertake research to better understand how oil and other ship-source contaminants impact seals, whales, mammals, and fish along with the people who eat them.
- Convene future gatherings along the lines of this Learning Exchange to support ongoing information exchange, transparency, and accountability.

Conclusion

Participants in the *Arctic Shipping and Oil Spills Learning Exchange for Communities* gave positive feedback about the value and relevance of the discussion. Participants from a range of backgrounds and geographic regions contributed to an open and respectful dialogue. The Expert Panelists contributed valuable firsthand knowledge and the group as a whole had the opportunity to learn from their experiences.

The Learning Exchange did not solve any of the challenges facing Arctic communities as shipping activity expands and oil spill risks increase. However, it created an opportunity to inventory a range of concerns and priorities, and laid the groundwork for future collaborations among northern communities, the Nunavut and ISR governments, and the Government of Canada.

Record of Discussion

Opening Remarks and Program Review

Paul Crowley, Vice-president of WWF-Canada's Arctic program, opened the program by emphasizing WWF's commitment to work hand-in-hand with Inuit communities to promote conservation. WWF has recognized the risk of oil spills from increased Arctic shipping, and convened this Learning Exchange as an opportunity for communities in the north to share information with communities from British Columbia and the US that have experienced shipping risks and oil spills. WWF intends to listen to participants and to consider whether WWF could play a role in filling the self-identified needs and gaps in northern communities to enhance oil spill preparedness and build capacity.

Madeleine Redfern, Mayor of Iqaluit, began by acknowledging the importance of two-way dialogue, noting that northern communities have a lot of knowledge and information to share. People have been living in these northern regions since time immemorial, and have a very close connection to the land and sea.

Mayor Redfern noted that communities bear a disproportionate risk from shipping and industry, and that additional infrastructure, resources, and training are surely needed to build capacity. The mayor emphasized that the process of building this capacity must be led and directed by northern communities, not dictated by the priorities of the federal government or non-governmental organizations. She concluded with a statement of support for the collaborative approach envisioned for this Learning Exchange.

Andrew Dumbrille, senior specialist in sustainable shipping with WWF-Canada expressed thanks to the funders and to the advisory group of community and federal government representatives who helped to plan and organize the program.

Elise DeCola, General Manager of Nuka Research and lead facilitator for the Learning Exchange, provided a program overview based on the changes necessitated by travel delays. She introduced the theme of "honouring all voices" and invited participants to introduce themselves by sharing their perspective on how shipping risks and oil spills impact them at the individual, community, or organizational level.

Roundtable Discussion

All participants had the opportunity to share their perspective as they introduced themselves and their organizations. A full list of participants is included in this summary report. The following bullet points summarize key themes, with a focus on community concerns and priorities as expressed by participants.

- The stakes in oil spill readiness are very high because communities rely on the ocean and land as a food source and hold a stewardship responsibility to protect these resources for future generations.
- There has been work done in the north, particularly in the western Arctic, to prepare for risks from oil and gas development, and Nunavut communities may be able to apply some of this experience and knowledge.
- There are programs and initiatives in place that touch on spill response training or equipment in many northern communities, but they are not necessarily connected across organizations or levels of government.
- Communities know that shipping activity is increasing, but are unable to access timely and accurate information about the types of ships that are passing by, what they are carrying onboard, and whether they have spill prevention and response procedures or equipment in place.

- Communities have a high level of concern over large pleasure craft and the risks they pose, and a general sense that their movements are not well understood nor are they well regulated.
- Communities are keenly interested in how Oceans Protection Plan (OPP) initiatives and funding may support capacity-building in the north, but the vision has thus far been unclear.
- Communities are concerned about risks from other types of shipping incidents, and recognize the potential for shipping accidents to strain local resources, whether or not there is an oil spill.
- Communities are concerned about other types of impacts from increased shipping, such as noise, and about the cumulative risks of increased shipping to wildlife and communities.
- Inuit communities want to play a strong role in shaping how shipping risks are managed and how oil spill response capacity is enhanced.
- The Government of Canada intends to work with communities to enhance capacity, and continues to conduct outreach as part of the OPP implementation.
- Communities are in favor of building new capacity around existing organizations and initiatives, such as NTI's Inuit Marine Monitoring Program.
- Communities are concerned that the “polluter pays” system may not be adequate to address all of the negative impacts of an oil spill in the north.
- Communities are not currently able to access or use the equipment in the “sea cans” that the Coast Guard has placed throughout the north.
- Community members are out on the land and water more than anyone else, and would like to have tools and resources to document and sample pollution when they come across it.
- Communities are concerned about the strong reliance on the Coast Guard as the primary oil spill response organization in the north, especially during winter.
- Community members share a sense that when it comes to oil spills, it is a question of “when, not if.”
- Communities would like to have better visibility into what the federal government is doing in their area, ranging from scientific research to enforcement activities.
- Communities view themselves as first responders, particularly in the north, but don't feel that they have the tools or training needed to take action in the event of an oil spill.

Context-Building Presentations

Arctic Shipping Risks and Oil Spills

Because of the compressed timing, scheduled presentations by Andrew Dumbrille and Elise DeCola regarding arctic oil spill risks and response were not delivered. This information is available to participants in a series of three reports published by WWF-Canada that outline the context for oil spill response in Nunavut and the ISR. They are available online and linked through the [Learning Exchange website](#). A Participant Guide was also circulated prior to the Learning Exchange, covering some of this information.

Oceans Protection Plan

Mitch Paulhus from Transport Canada and Kimberley Unterganschnigg from the Canadian Coast Guard (Coast Guard) gave a joint presentation about the Oceans Protection Plan (OPP) and the Government of Canada's context for environmental preparedness and response. The presentation identified five key priorities for the \$1.5 billion OPP, which include building partnerships with indigenous and coastal communities. The concept of community partnerships includes a role for communities in shared decision-making. The presentation described ongoing research into oil spills, including a number of studies focused on the Arctic.

Transport Canada, Coast Guard, and Environment and Climate Change Canada (ECCC) all have key roles in the OPP and in Canada's marine safety system, which spans prevention, preparedness and response, and liability and compensation. The federal government plays a number of roles in the Arctic, including overseeing transfers between oil handling facilities and shipping companies, reviewing plans, inspecting facilities, and facilitating the Arctic Regional Advisory Council meetings.

There are 47 Oil Handling Facilities located in the Arctic, and each year approximately 250 million litres of petroleum products are transferred at facilities in Nunavut. The government requires these facilities to have oil spill prevention and response plans in addition to notification requirements, spill equipment, and resources for each facility. Subsequently, the federal government monitors the transfer of petroleum products at the facilities on a rotational basis to ensure that each facility is following their site-specific plans and procedures.

The Canadian Coast Guard also provides a number of services related to Arctic shipping, including marine traffic and communication services, environmental response, aids to navigation, icebreaking and search and rescue. If an oil spill occurs in Canadian waters from ships, oil handling facilities and/or mystery sources, the Coast Guard is the lead federal agency, serving as incident commander and the official response organization if the polluter is unknown, unwilling or unable to respond. If the polluter is willing and able to respond, the Coast Guard will monitor and assist the response. The polluter is always responsible for the response including response costs and damages. The Coast Guard values partnerships, both domestically (local and indigenous governments, other federal agencies) and internationally (e.g. through the Arctic Council's Agreement on Cooperation on Marine Oil Pollution, Preparedness and Response in the Arctic).

The Coast Guard has community packs at 22 sites across the Arctic region, including a pack in Iqaluit with 3,200 metres of boom, 3 skimmers (2 appropriate for heavy oil), various 250T open tanks, along with pumps, generators and pressure washers. There are two heavy icebreakers and five medium ice breakers in the Canadian fleet that operate in Arctic waters during the icebreaking season, and up to 8 helicopters.

The Coast Guard recognizes that their Arctic capacity is limited, and is committed to expanding on their existing assets and building a stronger regime in partnership with Arctic communities and other stakeholders. Specific prevention initiatives include modernizing emergency response equipment, working with the Canadian Hydrographic Service to improve charting, and extending the icebreaking season. The Coast Guard is also investing in employment and training opportunities, including expanding the community boat program, installing a new in-shore rescue boat station, and creating a Coast Guard Auxiliary chapter in the Arctic.

The following topics came up during group discussion following the presentation:

- Ensuring that Arctic communities are empowered to participate on equal footing and in a self-reliant manner
- Clarification that the Coast Guard's capacity to respond to a larger spill in Arctic waters would involve deploying its Rapid Air Transportation (RAT) response unit from Hay River
- Need for supplying communities with equipment and tools to monitor and sample oil spills, as well as to initiate first response
- Concern regarding the Coast Guard's response time to Arctic oil spills and a lack of local/community capacity for initial response while waiting
- Extreme challenges during winter
- Need for working with communities to establish protection priorities based on local hunting and fishing practices
- Local knowledge is also critical to understanding ice floes, navigation limits, and wildlife migration

- Communities may have mechanisms to compel industry to meet prevention or response standards through local permitting
- Coast Guard relies on accurate and timely reporting of oil spills to initiate a response

Breakout Group Discussion: Inventory of Perspectives

Four groups were assigned and each was presented with a discussion topic that was intended to compile an inventory of information, perspectives, and concerns across the diverse group of participants. The topics were: (1) hazards; (2) consequences; (3) capabilities; and (4) gaps. Each group had a designated discussion leader and a reporting form to organize a report back to the group during the morning of Day 2.

Each breakout group provided a summary of their discussion to the full group. While each group was assigned a specific topic, discussion crossed over among all the groups.

Hazards

The group was assigned the topic of hazards, which are broadly defined as any type of initiating event or incident that brings risk of adverse impacts. They were given three discussion questions:

- What hazards are associated with shipping adjacent to your community?
- If you have a governing or regulatory role, does your organization have the ability to take actions that might reduce oil hazards?
- Do you feel that you fully understand the shipping hazards as they now exist? If not, what information would help you to better assess these hazards?

The group identified a number of shipping hazards, including: collisions, groundings, loss of power, mechanical failures, floating hoses during resupply, and improper maintenance.

The group had concerns about lack of capacity on the ground, lack of training, lack of plans and preparedness for people if there were to be a spill, regulatory gaps, lack of sufficient charts in some parts of the Arctic, and a possible lack of equipment. Any or all of these things could intensify the adverse impacts of a spill or other shipping hazard.

Consequences

The group was assigned the topic of consequences, which covers all of the ways in which ship-source oil spills and other emergencies may impact coastal communities and their resources. They were given three discussion questions:

- When thinking about consequences of oil spills, consider not only the damage that an oil spill could cause to various receptors, but also the short- and long-term steps that would be required for the resource to recover to its pre-spill state.
- If you have a governing or regulatory role, does your organization have the ability to take action that might reduce oil spill consequences in your area of jurisdiction? How and what types?
- Do you fully understand the potential consequences of oil spills to your community? If not, what type of information would you like to be able to access to better understand oil spill consequences?

The group identified food security as a top concern, both in the sense of being able to safely hunt and in the sense that a major emergency could bring an influx of people into an Arctic community, and it would be hard to feed them all. The loss of habitat and subsistence resource would be a significant consequence.

The group pointed at the lack of technology to clean up oil spills in ice-laden waters as potentially exacerbating adverse impacts of Arctic oil spills. Tests done in past decades during early oil and gas exploration confirmed this. There were even intentional oil spills, including a long-term project on Baffin Island in the 1980s.

The *Crystal Serenity* cruise ship was identified as a top concern, not just for the risk of oil spills but because of greywater discharge, which is reported to be unregulated in the Canadian Arctic. Communities want better monitoring and reporting on discharges from cruise ships and other vessels.

Capabilities

The group was assigned the topic of capabilities, which is meant to focus on identifying the types of resources, equipment, trained people, and infrastructure that may be available in coastal communities to deal with ship-source oil spills. Three discussion questions were presented:

- What types of capabilities do you think your community might be able to apply to ship-source oil spill preparedness and response?
- If you have a governing or regulatory role, does your organization have capabilities that can be brought to coastal communities? How? Are there any limitations or other considerations?
- How might you evaluate your community's capability to prepare for and respond to marine oil spills? What factors would you look at in trying to measure progress in this area?

There is a need to inventory the spill response kits that have been placed in the communities, to identify who has the keys, and to ensure that there are multiple keys in case someone is away.

There should be contact information on the sea cans about whom to call in the event the equipment is used and to track the date and outcome of inspections (if they are occurring, which is unclear). In addition to the equipment in the sea cans, communities would like to have procedures in place for what to do in the event of a spill.

Communities have significant knowledge and data that they could use to identify and prioritize sensitive areas for protection in the event of a spill, but there is no mechanism for them to collate or communicate this information in the context of oil spill planning and response.

Communities would like to have information about planned Coast Guard activities, so that they know when there will be ships operating in their area, and when there will not be. They would like to see better charting, and identified local knowledge as an important source for validating and updating Arctic navigation charts.

There are a number of programs that already exist in communities that could be transferable to oil spill response, such as search and rescue (SAR), rangers, fire departments, Inuit marine monitoring, and environmental technology programs through Arctic College. Communities suggested that any initiatives to build community-based oil spill response capacity should build on these existing programs and capabilities, and not try to reinvent the wheel.

Community capacity is currently limited by a lack of clear organization for how communities would work with others during spill planning and response. This includes collating local knowledge about wildlife and environmental sensitivities. There is a lack of infrastructure to support response and training programs seem to exist across the north but are somewhat disconnected.

Communities see a need to participate in oil spill simulations and drills, in order to build capacity and better understanding of their roles and relationships with government and industry during an oil spill.

In order to measure capacity and assess progress, there needs to be a common language or mutual operational understanding as to how communities fit into the broader oil spill planning and response

regime. The Coast Guard is developing a Marine Awareness Information System that will share its marine situational awareness information, as captured by its Marine Communications and Traffic Services, with interested Indigenous groups through a new web platform that can be accessed from any computer with Internet access.

Gaps

The group was assigned the topic of gaps, which focuses on identifying obvious gaps or limitations to the resources, equipment, trained people, and infrastructure available to Arctic coastal communities facing oil spill risks. Three discussion questions were presented:

- Are there obvious gaps in your community's ability to prepare for or respond to ship-source emergencies?
- If you have a governing or regulatory role, does your organization have the ability to help coastal communities fill these gaps? How?
- How might you identify gaps in your community's marine oil spill preparedness and response? Do you feel empowered to try to fill these gaps? Why or why not?

Given the long history of ships and barges transiting to and from communities in the north, the group thought that the current capacity was disproportionate to the risks faced. Not all communities have trained marine oil spill responders, in fact most do not.

As Arctic vessel traffic increases, there are concerns over vessel traffic management and ensuring that all of the different types of vessels – cruise ships, tankers, pleasure boats, etc. – have a clear understanding of routes, rules of the road, etc.

There is a gap in understanding of how oil spills would be managed and who would fill the initial role of Incident Commander during the time it takes for the Coast Guard and/or the shipping company to send a representative to a community. Communities are unclear about what the role of community leaders would be in the response decision-making and management once the Coast Guard and shipping company arrive.

Coronation Gulf was identified as an area of particular concern because of increased traffic through the Northwest Passage, combined with the narrow passages and well known navigational challenges. One cruise ship has already run aground due to inaccurate charting.

There is a clear gap regarding awareness and understanding of the types of vessels moving through Arctic waters, what their typical routes look like, what they are carrying onboard in terms of oil and other hazardous substances, and whether they have any plans or procedures onboard to prevent or respond to incidents. When thinking about vessel movements, there may be different levels of risks for different types of vessels – for example, resupply vessels that regularly call on communities may pose lesser or different risks than through traffic that is transiting the Northwest Passage but not stopping in communities.

Operators like Baffinland have company-wide procedures and requirements that hold vessel operators to certain standards, and this could be a mechanism to enhance safety throughout the region for certain types of ships.

Examples include limits on sewage discharge, speed limits, availability of docking tugs, and proactive engagement with the Coast Guard. Baffinland is willing to share information on their company practices, which may serve as best practices for other operators. There is a potential for industry to be a partner in filling many of the gaps identified, although there was some level of skepticism about compliance with voluntary measures vs. mandated requirements.

Ballast water exchange is a concern, and there are knowledge gaps about practices aboard ships transiting the region. An example of a ship releasing ballast water from Belgium into Arctic waters was cited. While ballast water regulation and inspection regimes have improved over time, there is still work for DFO to regulate ballast water exchange and prevent the introduction of invasive species or environmental pollutants.

Communities do not fully understand how the “polluter pays” regime would apply, and believe that there are likely gaps in how a shipping company would approach spill response funding and compensation in the event of a spill. There are no clear mechanisms for communities to ensure that shippers transiting near their communities have the financial security needed.

Communities need accountability from the federal government and from industry to ensure that their interests are adequately protected.

NTI is supporting an initiative that couples marine monitoring with AIS tracking for communities with heavy vessel traffic passing by, starting with Cambridge Bay and Clyde River.

There is a clear resource and infrastructure gap in the ability of Arctic communities to feed and house displaced passengers in the event of a cruise ship accident, or to support a large number of spill responders descending upon a community for a major spill response.

Expert Panel Presentations

Experts from Nunavut, the Inuvialuit Settlement Region, British Columbia First Nations, and U.S. tribes were invited to be part of two consecutive panels that highlight recent initiatives or activities in their community that relate to Arctic shipping and oil spill preparedness. Full copies of slide presentations are available to participants.

Marine Advocacy in Nome, Alaska

Austin Ahmasuk, Marine Advocate for Kawerak, Inc. in Nome, Alaska shared what he has learned as an environmental advocate dealing with shipping risks and oil spills. Kawerak represents Alaska Native villages in the Bering Strait region.

Cruise ships – a concern to Bering Sea communities as well – generate at least 40 known pollution streams (anti-fouling agents, fuel oils, ballast water, air emissions, etc.). Another similarity is the importance of marine resources, which are like “money in the bank.”

From 2012-2015, local community members and scientists documented oiled seals and seabirds in the region, but the source of the oil is still unknown. Levels of toxic chemicals in animals that were harvested were comparable to those after the *Exxon Valdez* oil spill.

Alaska has extensive oil and gas development and a long history of oil spills, big and small. In 2016, there were 1,863 spills reported. There are also substantial plans in place in Alaska at the sub-regional level. Area Contingency Plans are developed with local input, particularly on issues like sensitive resources.

In Alaska, oil spill plans look at worst case scenarios, because if you are prepared for the worst, you can handle smaller incidents. However, Alaskan communities still face challenges; for example, there are response trailers across Alaska and nobody can find the key.

Finally, climate change is a confounding factor that has the potential to add stresses to marine ecosystems. Kawerak has noticed different types of algae moving north with melting sea ice and warming waters. The

algae has caused paralytic shellfish poisoning to be a concern where it never used to occur, and in fact a recent die-off of walrus was attributed to them eating poisoned shellfish.

Lessons from Nathan E. Stewart Spill

Diana Chan, with the Heiltsuk Integrated Resource Management Department in Bella Bella, British Columbia, described the Heiltsuk's experience during a recent diesel spill.

The *Nathan E. Stewart* is a tug that ran aground on October 13, 2016, about 20 km from Heiltsuk territory, just outside of a major harvest area. The tug quickly sank, and began to leak oil. Over 107,552 litres of diesel and 2,240 litres of lubricants were released. A hereditary chief who was a first responder on scene noted that it was “very upsetting to see how much damage was done in such a short time.”

In the weeks that followed, boom was deployed but was not effective in containing the diesel slicks, which quickly spread. Booms were constantly breaking, then reset, then breaking again. They failed in both calm and rough weather. Absorbant booms soaked with oil broke apart and ended up on local beaches. Oil-soaked sorbent pads would sometimes sink before they were retrieved, so the oil stayed in the environment. Salvage was complicated by water depth and took much longer than expected.

DFO closed bivalve fisheries, and the closures remain in effect. Heiltsuk also closed larger areas to harvesting of all species. They do not know when they will re-open, but are concerned because people farther north who had an oil spill 10 years ago are still finding that, even though chemical testing shows no contamination, their clams “don't taste right” and nobody is harvesting them.

Heiltsuk created an investigation report, which is available [online](#). It describes some of the problems with the initial response. The federal government has not shared any information with them about the investigation, so the cause is still unknown, but Heiltsuk suspects that someone fell asleep and the tug veered off course. The weather was calm and clear.

As the Heiltsuk continues to try to understand community-level impacts, they have found that the polluter is not paying for all costs. The Heiltsuk have over \$140,000 in outstanding bills that the polluter refuses to pay, and they are uncertain whether an impact assessment will be adequately funded. The nation is actively fundraising to support their own efforts.

Heiltsuk hopes to learn from this experience by putting plans in place, adding equipment, and training community members.

Tsleil-Waututh Oil Spill Response Plans and Policies

John Konovsky, Biologist and Senior Advisor to the Tsleil-Waututh Nation, described their experiences with oil spills. Tsleil-Waututh are the “people of the Inlet,” with their traditional territory in southern British Columbia's Burrard Inlet, encompassing the Port of Vancouver, Canada's busiest.

Burrard Inlet, where Tsleil-Waututh have their primary reserve, has had a history of oil spills dating back to at least 1959, with the most recent spill in 2015. During a 2007 pipeline spill in Burnaby that impacted the inlet, Tsleil-Waututh were not even allowed into the command post. But during the 2017 spill from the freighter *Marathassa*, Tsleil-Waututh played an active role in Unified Command, along with the polluter, Coast Guard, Province of BC, and several other municipalities and First Nations.

Based on this experience, and on Tsleil-Waututh's experiences during the Trans Mountain Pipeline Expansion National Energy Board review, the Nation has enacted some policies that outline their expectations for oil spill response in their traditional territory.

Tsleil-Waututh policies include a recognition of the shared responsibility and authorities of federal, provincial, and municipal governments, with the expectation that Tsleil-Waututh be afforded equal

recognition for their authorities and responsibilities. Their policies also hold that current environmental conditions must be established and periodically updated to use in the assessment of oil spill impacts. Current conditions are different than a true baseline, which Tsleil-Waututh considers to be pre-contact. There are challenges in compiling and synthesizing information on baseline conditions.

Tsleil-Waututh policies prioritize prevention as the most effective way to avoid adverse impacts. They also hold that oil spill preparedness must be based on the worst case scenario for their region. Tsleil-Waututh has put in place a policy that requires one of the nation's archaeologists to be part of any oil spill response or assessment team working on along their shorelines, to protect archaeological and cultural resources. Finally, Tsleil-Waututh has established an expectation that if an oil spill occurs, the polluter must restore the environment to a condition better than its pre-spill state. This is consistent with the nation's stewardship policies.

Tsleil-Waututh has developed and published an Oil Spill Response Plan and Preparedness Assessment, which guides their internal processes for spill planning and response. This plan captures their priorities for enhancing their internal capacity, and has been useful for tracking progress on priority initiatives. There is also an Integrated Response Plan for the Vancouver region, which Tsleil-Waututh participated in developing along with the federal and provincial government, municipalities, and the Port. Both are available to participants.

At the core of Tsleil-Waututh's approach to capacity-building and one of the reasons they have been able to make progress has been the relationships they have built with the Coast Guard and other partners in Burrard Inlet. They have sent interns to work with the Coast Guard, and have continued to cultivate relationships with other orders of government, with the expectation that two-way communications will continue.

Tsleil-Waututh has economic opportunities by virtue of their location that may differ from other regions. They generate revenue through real estate development, but they have also benefitted from financial support from both the Port of Vancouver and the federal government.

Collaborative Governance for Ocean Protection

Darcy Dobell, an advisor to Coastal First Nations in British Columbia, shared the experience of First Nations in the Great Bear Rainforest region in advancing a collaborative governance approach. Most of these communities are water access only, and share concerns over shipping through their waters.

Coastal First Nations do not have treaties; some are in the treaty process, while others have opted not to. Therefore, the governance relationships, processes, and structures are still under discussion. Over the years, First Nations in the region have worked together on collaborative governance structures that have enabled a range of regional initiatives including land use planning, marine spatial planning, and expansion of a Coastal Guardian program.

When concerns about shipping in the region began to arise, First Nations again decided to align their efforts through a process that links community work with broader regional approaches. In the face of several proposed shipping projects (liquefied natural gas, or LNG) through the region, Coastal First Nations sought a collaborative process that acknowledged their rights and title. It quickly became clear that concerns were not just about potential increases in shipping, but also that the current shipping regime is inadequate to manage the impacts and risks associated with existing shipping through the region. They began by focusing on common ground, and were able to eventually structure conversations around specific issues, such as waterway management, emergency preparedness and response, and environmental stewardship. Coastal First Nations became frustrated in trying to address these issues with the federal government, because they lacked the policies, budget, and mandates to engage with First Nations on a government-to-government level.

Coastal First Nations recognized the need for this level of direct dialogue, and have been working with the federal government on a more structured framework agreement, recognizing the key connections between shipping issues, marine planning, conservation, and fishing. Establishing the framework requires significant time and effort, and a great deal of open dialogue. But the resulting governance structure has potential to streamline the process of decision-making and engaging, and provides a pathway to connect directly with communities. The Oceans Protection Plan may facilitate this process for other communities, because of new mandates and funding availability.

The governance structure has also helped First Nations to coordinate directly with one another, and to identify common priorities. It provides a mechanism for First Nations to coordinate with the federal government on shipping issues that may need to be taken to an international forum, such as the International Maritime Organization (IMO). While they have achieved a great deal, there is still work to do. As other communities move forward in this space, it is critically important to recognize indigenous rights and title and to build relationships from there.

Inuvialuit Settlement Region (ISR) Experiences with Oil and Gas Development and Shipping

John Noksana, Jr., from the ISR Fisheries Joint Management Committee, described some of the challenges and accomplishments in the ISR as they deal with increased shipping through the Northwest Passage. In the face of continued increases in shipping traffic through northern routes, the ISR is concerned about spills from tankers and from other types of vessels.

The ISR has a long history of dealing with oil and gas development, but has found that the experience dealing with shipping is much different. When oil and gas operations are permitted, there are opportunities for local communities to understand their prevention and response procedures, and to attach conditions to their operations. But, for shipping, the communities have a much harder time accessing the shipping companies or understanding their capabilities.

During the offshore oil and gas period, there were no major spills, but there were a few near misses.

North of the 60th parallel, the Government of Canada does not require shippers to contract with a Response Organization (RO), making the Coast Guard the lead responder for any ship source Arctic spills. This is concerning because the Coast Guard is far away and under-resourced. Right now, nobody in the Arctic feels like Canada is ready for a major oil spill.

Grey water remains a high concern for ISR communities, and the federal government needs to regulate grey water discharges. Communities are concerned about the threat of oil spills, especially during freeze up, when an oil spill could be trapped for months. Communities have concerns about chemical dispersants and are unclear whether there are plans to use them in the Arctic. Communities believe that the Coast Guard spill kits in communities have not been maintained, and locals are not trained on how to use them, despite the fact that they are the most likely first responders.

During a recent grounding of a fuel barge near Inuvik, there was no engagement or coordination with the community. Local community members are out on the land and water more than anyone else, and they are best able to notice something out of the ordinary, but the channels to communicate with the federal government are not always clear.

The Fisheries Joint Management Committee has initiatives underway that connect communities and overlap with Arctic shipping issues. At the last meeting of the Inuvialuit-Inupiat Beluga Whale Commission, there was a decision to initiate a study looking at shipping impacts. They are interested in better understanding

whale migration and behaviour when ships are present. A bowhead tagging effort has been underway for several years.

Swift currents that run west through the Northwest Passage connect communities, and necessitate coordination with the U.S. A drifting barge that started in the Canadian Beaufort ended up in Russian waters. A floating oil slick could have the same fate.

While there is coordination between the U.S. and Canadian governments, the U.S. does not have much of an on-water oil spill response capacity in the Arctic either.

In addition to oil, there are concerns over other hazardous and noxious substances carried by ships.

Makah Tribal Council Use of U.S. Treaty Rights to Enhance Government-to-Government Consultation

Chad Bowe chop, Director of the Office of Marine Affairs for the Makah Tribal Council in Neah Bay, Washington recounted his tribe's experience asserting their treaty rights to manage oil spill risks and response through their traditional use region. Neah Bay is at the mouth of Juan de Fuca Strait, which is where all of the vessel traffic to major ports along the Canada/U.S. Pacific border transit. More than 2 million gallons of oil has been spilled in Makah territory.

Makah has approached capacity-building by establishing an Office of Marine Affairs within the tribal government and working proactively on both a policy and practical level with government and industry. Makah has had success advocating for policy changes at the state and federal level to enhance vessel safety and response capacity in their region, by leveraging U.S. oil spill response planning standards, which require vessels and facilities to maintain certain levels of equipment, planning, and training. Makah continues to advocate for improving mechanical recovery (skimming and booms) and take a cautionary approach to the use of chemical dispersants, because there is so much that is not known about their potential adverse impacts.

Makah attributes their success to the ability to connect their cultural interests to broader discussions of shipping oversight and emergency response. Their work is compelled by their responsibility to protect their cultural and spiritual values through resource stewardship.

Makah has a memorandum of agreement in place with the U.S. Coast Guard that formalizes the way in which the two organizations interact. There is a work plan associated with this agreement creates an accountability structure that Makah has been able to use to maintain momentum on priority issues. Makah also uses the memorandum as a way to access technical information from the U.S. Coast Guard, and they also hire outside experts to support their work.

Makah believe that coastal tribes are the best maritime operators and that they should have a seat at the table for technical and policy discussions. In order to meaningfully participate, indigenous communities need dedicated resources, strong working relationships, and access to knowledge and data. One of Makah's major achievements has been to compel the shipping industry to fund a dedicated response tug, which is stationed at Neah Bay 24 hours a day/7 days a week. In the last few months, the tug has made three saves.

Makah is interested in working with First Nations on building trans-boundary capacity for indigenous communities to work together to protect their shared waterways.

Haida Engagement in Marine Shipping

Russ Jones, Manager of Marine Planning for the Council of the Haida Nation, highlighted recent work in Haida Gwaii to address shipping safety risks. Haida Gwaii is an archipelago located off the west coast of

northern British Columbia. Ships traveling the Great Circle Route from Pacific ports in the northern U.S. and southern British Columbia pass close by Haida Gwaii on their way to eastern Asia.

The Haida Nation has an elected governing council and constitution representing approximately half of the island's population who are of Haida descent. The Haida are traditionally seafaring people with a deep connection to the marine environment. The Haida Nation took a strong stance against the proposed Northern Gateway pipeline project that would have introduced tanker traffic into the port of Kitimat on the mainland. While that project is no longer viable, the Haida realized that other types of vessels also pose significant risks to their land and waters when, in the fall of 2014, the Russian cargo ship *Simushir* lost power about 20 miles off the coast of Haida Gwaii.

The *Simushir* was not a tanker, but it still had 472 tonnes of bunker oil and 59 tonnes of diesel onboard as it drifted toward Gwaii Haanas National Park. A Coast Guard vessel (*Gordon Reid*) that happened to be in the area was dispatched to the ship to rescue the crew, and was able to affix a tow line to the relatively small cargo ship. They were able to pull the ship a bit farther offshore before the towline broke. A second towline also broke, but then a third held long enough to continue pulling the ship offshore. In the meantime, a tug of opportunity was dispatched from Prince Rupert, and 40 hours later it arrived on-scene and was able to achieve an effective tow and bring the ship into Prince Rupert for repairs.

The Haida recognized the *Simushir* as a significant near miss. If the cargo ship had been larger or the *Gordon Reid* had been farther away, it would have drifted onshore and potentially caused major pollution. If there had not been a tug in Prince Rupert with sufficient power to tow the ship, it might have drifted back toward the shore after the third Coast Guard towline broke. If the weather had deteriorated, it might have been possible to get a line on the ship at all.

During the incident, the Haida had a seat at the table with a representative of the vessel owner and representatives of the provincial and federal government. The Haida prioritized sites for protection in the event that a spill had occurred, and were able to provide local knowledge to enhance the incident management.

This incident precipitated a workshop that included the incident responders, other government representatives, local community members, and technical experts. Several recommendations came out of the workshop. To prevent future incidents, vessels should transit at a safer distance offshore to give them more time to react in the event of an emergency. An ocean-going rescue tug should be stationed permanently nearby so that it can be rapidly deployed.

To better prepare for future incidents, the Haida engaged in a two and a half year planning process with the federal and provincial government to develop Places of Refuge plans for Haida Gwaii that included a risk assessment process inclusive of local values and priorities when making decisions about how to handle ship emergencies. The Haida also continue to participate in oversight of shipping through the governance process described by Coastal First Nations.

The Haida have also engaged actively in a number of ocean and marine protected area planning initiatives that contribute to their capacity to protect their marine resources. One of the most significant achievements has been the publication of a Haida Gwaii Marine Plan, which has been done in cooperation with provincial and federal partners. The Marine Plan has allowed them to collate a great deal of data that could be used for both planning and response. This has included the compilation of marine traditional knowledge over a three-year study.

The Council of the Haida Nation has identified several factors that have contributed to their effective capacity-building. Connecting initiatives directly to the community is critical. Partnerships across jurisdictions are also necessary, particularly when dealing with shipping issues. Communities must have

adequate capacity, including plans, people, and equipment. This is an area where the Haida recognize that they still have work to do. Collaborative pre-planning for specific emergencies is critical to ensure that all parties involved clearly understand their mandates, their connections to other organizations, and their capabilities and limitations. Communication channels and systems are also essential. The Haida Nation learned a lot about this during the Places of Refuge planning process; not only did the government need to understand how to contact the Haida, but internally, the federal and provincial agencies need to make sure they have a clear understanding of how communication occurs and information flows.

The Haida Nation Marine Planning Program has resources available online with more information about their [resources](#) and [initiatives](#).

Nunavut Fisheries and Marine Training Consortium

Liz Cayen, Executive Director of the Nunavut Fisheries and Marine Training Consortium, gave a brief presentation to highlight the facility and programs they offer at their Iqaluit training center. The Consortium has been in place for 12 years, and has grown substantially in that time. It is the only marine training center north of the 60th parallel.

Through partnerships, the Consortium provides training in all sectors of the fishing and marine industries. They are deeply invested in providing training to Inuit community members without requiring them to travel south. Their programs focus on practical training and knowledge that will translate into employment opportunities. “Training is great, but working is better.”

To date, 1,725 participants have been through training, with a 92% completion rate. This year, more than 70 courses have been delivered to community members from across the north. Their courses include safety and environmental content, and they offer content related to oil spill response. Their current facility is newly renovated, with several large classrooms and a ship’s bridge simulator. The Consortium is considering expansion into the Northwest Territories, and is also interested in offering training courses directly within communities.

Funding for the Consortium comes through several sources. Fishing companies are a major funder, and are also an important employer of their students. Their keys to success include partnerships, working closely with industry to understand their staffing needs and tailor their training, supporting their students even after they move into the workforce, and ensuring quality instruction.

Breakout Group Discussion: Moving Forward

Four groups were assigned one of four topic areas that relate to how communities can take the information from this Learning Exchange and apply it: (1) establishing preparedness goals; (2) evaluating community capacity; (3) connecting efforts across locations and sectors; and (4) identifying needs and filling gaps.

Establishing Preparedness Goals

Preparedness goals describe a desired state of preparedness for a community or organization. For the purpose of this discussion, participants were encouraged to focus on the process of establishing preparedness goals and how they might approach returning to their communities to undertake efforts to align preparedness with risks. The group identified the following:

- Establish a shared understanding of what the community is trying to prepare for – the size and type of spill that could occur, what types of products could be spilled – in order to figure out what the community would need to be prepared.

- Establish clear communications channels and processes, so that people know who they need to contact, how agencies communicate, and how to ensure a two-way flow of information.
- Set preparedness goals before an incident happens, and make sure that there is a proper regulatory structure in place before a disaster happens.

Focus on compiling baseline information on at-risk resources and ensuring that it is collated and documented in a way that it can be shared with the government and with possible polluters.

Having this information in place will help prepare communities by ensuring they can document any adverse impacts in the event that an incident occurs. Without this information, communities may not be able to show adverse impacts or be compensated for them.

- Focus on compiling information and building awareness about shipping activity near communities – what types of ships are transiting, when they are transiting, what routes they typically follow, what they are carrying, and where they are going.

Assessing Needs and Filling Gaps

Some participants may have come to this Learning Exchange with clear ideas about what needs and gaps exist in their communities and organizations, while others may be contemplating these issues for the first time. For the purpose of this discussion, participants were encouraged to focus on the process of conducting a needs assessment and identifying gaps in community preparedness, to inform how participants might approach returning to their community to begin or continue this process. The group identified the following:

- There is a need for baseline research and assessments across the north. Baseline data about environmental sensitivities, wildlife, harvesting, and cultural values will be needed very quickly if an oil spill happens.
- There is a need to understand what types of ships are moving by and what they are carrying.
- It is important to look at the big picture when planning for oil spill impacts in the Northwest Passage. Because of the way currents move, an oil slick could move many kilometres in a matter of hours, so communities need to work together to coordinate and communicate. A spill that is in one community now could be in another community very soon, even though they are geographically separated.
- Translation of materials into Inuktitut is critical to effectively reaching community members. Any work that is done with communities has to include translation, and government departments must also take this important step as they engage with communities in the north. Training must be bilingual. Language could also be a barrier during an oil spill response, and must be addressed during planning and preparedness.
- Assessing risks should focus not only on ship traffic passing by, but also on local sources of potential pollution, like tank farms. Communities should consider their age, security, and other factors that could influence the potential for an oil spill.
- There is more clarity needed regarding the role of the Coast Guard in responding to oil spills, deploying the equipment in sea cans, and how they relate with communities, first responders, and the polluter. It is unclear who is responsible for what, how different entities come together, how decisions are made, and who is in a leadership role.
- There is a need for a better, shared understanding of the purpose of the sea cans, their contents, who can access them, how and when they are inspected and resupplied, and any other conditions related to their use. Communities do not view these as local resources, but as Coast Guard resources that are located in communities but not within their control or discretion to use.
- There seems to be a significant difference between capacity in winter and non-winter months. Any planning or gap assessment should address the difference between responding to a spill during May-

September when Coast Guard vessels can access communities, and the rest of the year when on-water operations are limited or precluded.

- Needs and gaps are driven by the reality that it is “not if, but when.”
- When assessing training needs, many other factors need to be considered. Before community members are trained to specific functions, everyone needs to understand their roles and responsibilities. Maybe community members need to be trained to deploy boom, or maybe they should learn how to be part of Unified Command, or maybe they should focus on sampling or protective actions. Any training programs must consider not just initial training but how it will be kept current, who will fund it, and how training records will be managed.
- There need to be clearer maps of who communities call within the federal government, and communities also want to know who the federal government intends to call or how they intend to contact the communities. These channels need to exist on a regular basis in order for them to work during an emergency.

Connecting Oil Spill Planning and Preparedness Initiatives

There has been a lot of focus in recent years on shipping risks and oil spill preparedness across Canada’s north and other regions. Participants were asked to identify any information or initiatives that they are aware of that could help Arctic communities to enhance their preparedness for ship-source oil spills and emergencies. The group identified the following:

- There are a number of national and regional processes that could support oil spill capacity building in northern communities:
 - Land Use Planning initiatives, particularly in terms of identifying protection priorities and resource sensitivities;
 - Low impact corridors, including safety, navigational aids, spill response, and community engagement through ongoing dialogues;
 - Regional and environmental assessments;
 - Marine Protected Area planning and identification/mapping of sensitive areas;
 - Environmental reviews of cruise ship activities through land claim processes;
 - Nunavut Impact Review Board and other processes that review specific projects (such as Baffinland) and attach conditions related to spill preparedness and response or shipping activities;
 - Nunavut Spills Working Group, which addresses spill preparedness and also links regional bodies with spill response authorities through a notification process; and
 - Indigenous and Northern Affairs Canada has a role in spill response on-land and for inland waters.
- There is still a lot of work to be done to map out the connections and relationships between these initiatives.

Evaluating and Building Capacity

Capacity is a broad term that may include people, equipment, plans, training, infrastructure, vessels, and other activities or resources available to support a community in preparing for and responding to shipping risks and oil spills. For the purpose of this discussion, participants were encouraged to focus on the process of evaluating and building capacity and how they might approach returning to their communities to begin this process. The group identified the following:

- Begin with an inventory of local resources, such as skills, institutions, organizations, local knowledge, and equipment, which may include:

- Training centers;
 - Traditional knowledge;
 - Regional organizations like NTI;
 - Non-governmental organizations like WWF that may have resources or funding to support initiatives in communities; and
 - Communications systems.
- It is important to review information that is already out there or in place that could inform oil spill preparedness. For example, communities already know a great deal about ocean and environmental conditions that would influence the movement of oil slicks and potential response operations.
 - There are 25 communities in Nunavut, and a one-size-fits all approach may not work across all of them. Even communities that are geographically close often have discrete weather, different local wind and current conditions, ice regimes, and different priorities or concerns. They may face different types of risks based on local shipping and industrial activities.
 - Key people within hamlets and communities must understand the overall response planning and preparedness process, including their role in this process.
 - Information that is gathered through planning and consultation processes should be incorporated into capacity-building; often, the outcome of consultation or engagement efforts is unclear to community participants.
 - Building community-based capacity requires a “decolonization” of the process, which many communities view as overly reliant on federal plans, personnel and resources. A decolonized process should build two-way accountability and should empower community leadership to take actions in the near term while building capacity in the long term.
 - A governance structure that provides a clear leadership role from within communities is critical, and related to the concept of decolonization.
 - Capacity-building may require policy change, commitment from other levels of government, and direct advocacy on behalf of communities. This process may be iterative, and it is critical that communities are linked into the full cycle so that they can understand and contribute to the overall process.
 - The capacity-building process is founded on the institutionalization of relationships and capabilities; without a structure in place to connect initiatives, we risk reinventing the process repeatedly, at the expense of forward progress.
 - Infrastructure captures more than physical components, it is also institutional, cultural, and organizational. Effective infrastructure to support capacity-building must include mechanisms for knowledge-building and information-sharing. For example, the communications infrastructure involves not only ensuring that communications channels (land line, cell phone, radio, satellite phone, etc.) exist, but also that people know who to call and what will happen after that call is placed.
 - Hunting and trapping organizations (HTOs) and conservation officers are an important resource in any communities. They typically have knowledge about baseline conditions, and they are also a link to people out on the land and water, the eyes and ears that are likely to be the first to witness impacts or changes. These individuals are also typically very over-burdened already, with their capacity stretched thin.

Roundtable Discussion

The Learning Exchange program concluded as it began – with a roundtable discussion that afforded all participants to share their voice and perspective. Participants were given a prompt for their final comments, which was to identify: (1) near-term or immediate actions that each participant could take back to his or her community or organization; and (2) long-term goals or aspirations for what could be achieved to enhance community oil spill response capacity across Canada's north. Participant responses are summarized below, organized by topic.

Near Term Action Items

- Initiate community-led efforts to identify high priority sensitive areas in a manner that will support broader planning and response initiatives.
- Institute prevention measures such as pre-booming ships prior to oil transfer or refueling operations.
- Begin working on an Oil Spill Response Plan for the Northwest Territories and Nunavut.
- Begin working on a community oil spill response plan that is similar to the Tseil-Waututh plan that was shared.
- Inventory sea cans, update signage, and ensure that communities have keys.
- Collate some of the work that has already been done in the ISR (oil spill response manual, training courses through Arctic College) and transfer to Nunavut communities.
- Share information from this Learning Exchange through other forums, such as Baffinland's end of shipping season meetings with maritime partners.
- Share Baffinland best management practices for shipping with Learning Exchange participants.
- All participants can bring back knowledge of other initiatives and programs and look for opportunities for overlap or synergy.
- Communities in the north and west of Canada are both working on vessel traffic studies, they will look for opportunities to share their work or collaborate.
- Report back to regional and federal agencies about the success of this Learning Exchange and the possibilities to build on this experience to enhance engagement, participation, and capacity-building.
- Recognize that communities are willing and able to respond to oil spills, but must be given the right tools and training. Communities can contribute to the success of federal initiatives.
- Community members share what they learned with their leadership, HTOs, and other community members.
- Finalize this Learning Exchange report and share with participants along with supporting technical documents, and ensure that participants have contact information for future outreach.
- Identify opportunities for communities to assert themselves in the face of increased cruise ships and recreational shipping.
- Support local training opportunities for community members to deploy equipment in sea cans and protect against oil spills.
- Initiate a community-based initiative to demonstrate how capacity building could be accomplished in the north.

Long Term Goals and Aspirations

- Recruit, train and equip local community members to provide first strike response to oil spills.
- Collate and document harvest data and baseline ecological conditions.

- Build connections between community first strike responders and federal spill responders (Coast Guard) that would show up in a community if the “800” spill response number were called.
- Establish a common operational understanding across local, regional, and federal agencies with spill preparedness or response mandates.
- Build connections between communities and technical experts who could support preparedness and response efforts.
- Identify policy and regulatory changes needed to support community capacity-building.
- There is a lot of funding on the table with the Oceans Protection Plan (OPP), and a significant opportunity to enhance the current system. It is important to include communities when establishing a vision of where Canada can go with this new funding and expanded mandate. As the OPP implementation unfolds, there should be accountability back to communities to demonstrate that progress is being made and gaps are being filled.
- Make sure northern communities have a seat at the table for oil spill policy and regulation development, planning, and setting priorities for the future.
- Establish a Response Organization (RO) north of the 60th parallel (may require legislative change).
- Include young people in future efforts and dialogues, as they are critical to moving forward with any new initiatives.
- Build community capacity in a way that does not overburden them by adding mandates without funding or resources to support them. One way that the federal government could enhance capacity and build connections would be to assign “ambassadors” to work directly with and support communities.
- Build a network of communities that can render aid and assistance to one another. Community capacity should not be isolated, there should be a broader framework that connects communities throughout the entire cycle of oil spill preparedness and response.
- Consider the perspective of communities when shaping future regulatory or legislative changes to shipping oversight and oil spill response in Canada. Provide opportunities for direct input early and often.
- Create measurable objectives for enhancing capacity, and periodically measure against these to track progress.
- Build a collaborative governance system for oil spill preparedness and response that connects federal, provincial, regional, local, and indigenous governments.
- Do not underestimate the value of what communities already know and what they are capable of achieving. Instead, look for ways to support them without compromising their self-determination.
- Ensure that prevention remains a primary objective in promoting shipping safety and avoiding oil spills. Give communities a voice in prevention as well, like the Places of Refuge example from Haida Gwaii.
- Identify opportunities for funders and non-governmental organizations to add value to the process of building community capacity without getting in the way.
- Undertake research to better understand how oil and other ship-source contaminants impact seals, whales, mammals, and fish along with the people who eat them.

Other Comments and Observations

- There are already examples out there of what can happen when communities are not prepared, like the Bella Bella spill. Apply these lessons to your community.

- There is an over-arching need for continuity – across organizations and levels of government, within communities and organizations – to avoid “reinventing the wheel” on issues like oil spills that have been around for a long time.
- The focused conversation during this Learning Exchange helped to galvanize support and bring these issues to the front of the mind for many participants. It will be important to maintain this momentum, possibly by holding similar events more regularly.
- There are many other elements of shipping activity in the Arctic that could have adverse impacts, beyond just oil spills, and it is important for the overall dialogue to continue to address all of the ways that increased shipping activity could impact northern communities.
- Gathering in Iqaluit gave participants from the south a glimpse into life in an Arctic community, but it is important to recognize that Iqaluit is a major city, and has a great deal more resources and infrastructure than the smaller, more remote communities that we are thinking about.
- Many participants expressed gratitude and offered recognition to WWF-Canada for funding and supporting this Learning Exchange, and for creating a space for frank and open dialogue inclusive of communities.
- Self-determination is critical to community capacity and to empowering communities to face shipping risks, over which they have otherwise little control.
- There is still a long way to go, even in the south where a spill that happened today would not be much different than the *Nathan E. Stewart* incident a year ago, because there has not been any tangible increase to capacity.
- Some of the issues explored can seem overwhelmingly complex, but sometimes there are relatively simple answers or ways forward.
- Ships moving through the north are like having someone stomp through your garden. Getting this right is critical to ensuring that future generations can continue to live off the land.
- Do not let this Learning Exchange report sit on a shelf gathering dust; keep the conversation going and the work progressing.

Learning Exchange Participation and Program

Participants

Name	Organization	Point of Origin
Andrew Dumbrille	WWF-Canada	Ottawa, ON
Austin Ahmasuk	Kawerak, Inc.	Nome, AK (US)
Brandon LaForest	WWF-Canada	Iqaluit, NU
Chad Bowechop	Makah Tribal Council	Neah Bay, WA (US)
Harry Aggark	Chesterfield Inlet Hunters and Trappers Organization	Chesterfield Inlet, NU
Chris Wilson	Transport Canada	Ottawa, ON
Colleen Parker	WWF-Canada	Inuvik, NT
Daniel Taukie	Nunavut Tunngavik Inc.	Iqaluit, NU
Darcy Dobell	Coastal First Nations	Vancouver, BC
David Zhong	Indigenous and Northern Affairs Canada	Iqaluit, NU
Diana Chan	Heiltsuk Integrated Resource Management Department	Bella Bella, BC
Elise DeCola	Nuka Research and Planning Group, LLC	Plymouth, MA (US)
Emiline Sammurtok	Government of Nunavut	Rankin Inlet, NU
Maureen Copley	Indigenous and Northern Affairs Canada	Gatineau, QC
Erin Keenan	WWF-Canada	Iqaluit, NU
Gayle McClelland	WWF-Canada	Ottawa, ON
Greg Harvey	Memorial University	St. John's, NL
Hans Lennie	Inuvialuit Game Council	Inuvik, NT
Ivan Koonoo	Pond Inlet Hamlet	Pond Inlet, NU
Jackie Price	Qikiqtaaluk Wildlife Board	Iqaluit, NU
Jared Gardner	Baffinland Iron Mines Corp.	Oakville, ON
Jayko Palongayak	Kugluktuk Hunters and Trappers Organization	Kugluktuk, NU
Jeremy Tunraluk	Arctic Bay Hunters and Trappers Organization	Arctic Bay, NU
Jerry English	C-Core/Memorial University	St. John's NL
Joadamee Amagoalik	Resolute Hunter and Trappers Association	Resolute, NU

Name	Organization	Point of Origin
Joshua Kango	Qikiqtaaluk Wildlife Board	Iqaluit, NU
John Noksana, Jr.	ISR Fisheries Joint Management Committee	Inuvik, NT
John Konovsky	Tsleil-Waututh Nation	Vancouver, BC
Karla Abbott	Environment and Climate Change Canada	Iqaluit, NU
Kate Guse	Canadian Coast Guard	Ottawa, ON
Kevin Klengenber	Kugluktuk Hunters and Trappers Organization	Kugluktuk, NU
Kimberley Unterganschnigg	Canadian Coast Guard	Ottawa, ON
Madeleine Redfern	City of Iqaluit	Iqaluit, NU
Mark Brooks	WWF-Canada	Ottawa, ON
Mary Turnipseed	Gordon and Betty Moore Foundation	Palo Alto, CA (US)
Melissa Nacke	WWF-Canada	Ottawa, ON
Mitch Paulhus	Transport Canada	Edmonton, AB
Norm Snow	Inuvialuit Game Council	Inuvik, NT
Paul Crowley	WWF-Canada	Iqaluit, NU
Randy Pittman	Marine Institute/Memorial University	Iqaluit, NU
Richard Holt	Environment and Climate Change Canada	Gatineau, QC
Russ Jones	Council of Haida Nation	Skidegate, BC
Sam Tuluurialik	Taloyoak Hunters and Trappers Organization	Taloyoak, NU
Sarah Spencer	Nunavut Wildlife Management Board	Iqaluit, NU
Sierra Fletcher	Nuka Research and Planning Group, LLC	Portland, ME (US)
Timmy Soucie	Pond Inlet Hamlet	Pond Inlet, NU
Vicki Sahanatien	Nunavut Wildlife Management Board	Iqaluit, NU

Schedule

The schedule that was published in the Participant Guide was revised because of weather-related travel delays. The Learning Exchange was scheduled to begin at 8:30am on November 1st, but did not commence until 2:30 pm that day because of flight cancellations on October 31st. The compressed timeframe required some scheduled components to be removed from the program and others to be shortened.

Day 1 - November 1st

- 14:30 Opening Remarks & Program Review
- 14:45 Roundtable Discussion
- 16:00 Presentations: Context Building
- 16:45 Breakout Discussion Groups
- 17:15 Day 1 Wrap-up
- 17:30 Dinner (provided) & Social Event at Unikkaarvik Visitor Centre

Day 2 - November 2nd

- 7:45 Breakfast (provided)
- 8:30 Program Review
- 8:45 Discussion Group Report Out
- 9:15 Expert Panel Presentations
- 10:30 Coffee Break
- 10:45 Expert Panel Presentations
- 12:00 Lunch (provided)
- 13:00 Breakout Discussion Groups
- 14:00 Coffee break
- 14:30 Report out from Discussion Groups
- 16:00 Wrap-up

Day 3 - November 3rd

- 8:30 Breakfast (provided)
- 9:00 Welcome and Program Review
- 9:15 Roundtable Discussion
- 10:30 ECCC Technical Presentation on Arctic Shipping Air Emissions
- 11:00 Group Discussion
- 11:15 WWF-Canada Presentation on HFO and Mitigation Measures
- 11:30 Group Discussion
- 12:00 Box Lunches for Participants