Proceedings of a Knowledge Exchange Workshop Focused on:

Inuit-Led Marine Conservation

Photo: Natalie Carter

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McMaster University | School of Earth, Environment & Society

Carleton University

SMARTICE

Workshop hosted:
January 23-27, 2023
Yellowknife,
Northwest Territories

Funded by:
Crown-Indigenous Relations and Northern Affairs Canada

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Project partnership

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Acknowledgements

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This report was design and created in collaboration with:
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Andrew Arreak
Pond Inlet, Nunavut

“I facilitate my meetings all in Inuktitut...so it keeps our language alive and strong by documenting sea ice words and terms...

...You can keep culture alive by going out on the land, water, sea ice. You can learn a lot just by going out rather than reading it.”

Workshop Overview

Introduction

In January 2023, SmartICE Community Co-ordinators from the communities of Arviat, Gjoa Haven, Taloyoak, and Pond Inlet, Nunavut, and Tuktoyaktuk, Inuvialuit Settlement Region, gathered for a knowledge exchange workshop. The workshop was focused on Inuit and Inuvialuit[1] leadership and contributions to marine conservation efforts.

Our goal in the workshop was to learn from SmartICE Community Co-ordinators' experiences, to inform ways of enhancing meaningful involvement of Inuit and Inuvialuit, and their knowledge, in marine conservation efforts.

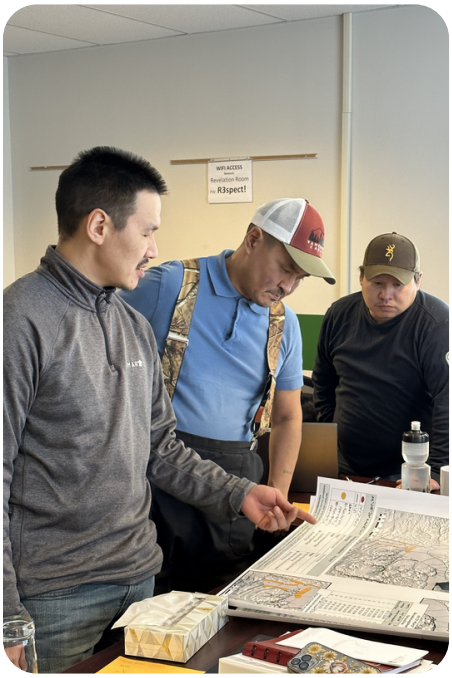


Photo: Lynn Moorman

Photo: Natalie Carter

What we did

The workshop involved four two-hour long meetings in Yellowknife, Northwest Territories, which coincided with SmartICE Co-ordinator training workshops facilitated by SmartICE staff **Katherine Wilson, Andrew Arreak, Leanne Beaulieu**, and **Parnian Rezania**, and **Lynn Moorman** (Mount Royal University). For more project context see https://straightupnorth.ca/inuit-led-marine-conservation/.

Each day focused on a unique aspect of marine conservation:

- **January 23** – Defining marine conservation, and community experiences;
- **January 24** – Inuit and Inuvialuit-led marine conservation;
- **January 26** – How SmartICE can contribute to marine conservation; and,
- **January 27** – Priority areas for future marine conservation initiatives.

[1] Inuit are Indigenous people of the Arctic. Inuvialuit are the Inuit of Canada's western Arctic (https://www.irc.inuvialuit.com).

Workshop Overview *(Continued)*

Each day included plenary and small group discussions, with periodic breaks. Discussions were conducted in English and facilitated by **Natalie Carter** (McMaster University) and **Emmelie Paquette** (Carleton University). They also presented about protected areas, and related initiatives, around each of the Co-ordinators' communities. In plenary, following each small group discussion, the facilitators summarized key points from the discussions and all Co-ordinators were invited to expand upon and discuss those points. Most workshop sessions were audio recorded, with the Co-ordinators' consent, for the purposes of summarizing discussions and preparing this report. Mentimeter was used to get feedback from the Co-ordinators to enable honest and anonymous feedback. The Co-ordinators verified a summary of results, including the quotes presented in this report.

Workshop Participants

Six SmartICE Community Co-ordinators participated in the workshop:

From Nunavut:
Andrew Arreak, Pond Inlet
Leanne Beaulieu, Gjoa Haven
Sandra Aqqaq, Taloyoak;
Jimmy Muckpah and **Zachariah Owingayak**, Arviat

From Inuvialuit Settlement Region:
Dawson Elias, Tuktoyaktuk

Front (from left to right): Andrew Arreak, Lynn Moorman, Jimmy Muckpah, Dawson Elias, and Natalie Carter.
Back (from left to right): Leanne Beaulieu, Emmelie Paquette, Sandra Aqqaq, Parnian Rezania, Katherine Wilson, and Zachariah Owingayak.
Photo: Nunasi Conference Services

Defining Marine Conservation

We began the workshop by developing a shared understanding of marine conservation. In two small groups the SmartICE Community Co-ordinators were invited to share what the words ‘marine’ and ‘conservation’ meant to them. Then in plenary we discussed ‘marine conservation’.

Four overarching themes emerged:

Four overarching themes regarding marine conservation as identified by SmartICE Community Co-ordinators

- **Preserving** the land, water, sea ice, wildlife, and culture
- **Conserving** the Inuit and Inuvialuit environment
- **Protecting** the people, sea, and marine area
- **Conserving and protecting** Inuit & Inuvialuit knowledge & culture

SmartIce Community Co-ordinators Leanne Beaulieu, Andrew Arreak and Zachariah Owingayak defining marine conservation with facilitator Emmelie Paquette.

Photo: Katherine Wilson

Photo : Renata E. Mares

Defining Marine Conservation
(Continued)

The topic of marine conservation is complex and multi-faceted.

The SmartICE Co-ordinators identified seven key aspects of marine conservation:

WILDLIFE CONSERVATION

INUIT AND INUVIALUIT KNOWLEDGE

TRAINING

EDUCATING NON-INUIT AND NON-INUVIALUIT PEOPLE

GOVERNANCE AND LEADERSHIP

THE LOCAL ECONOMY

RESEARCH AND MONITORING

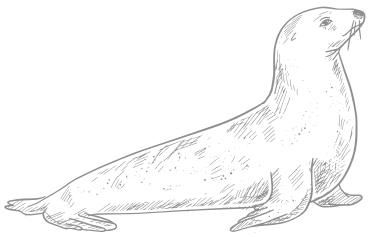
1.Wildlife Conservation

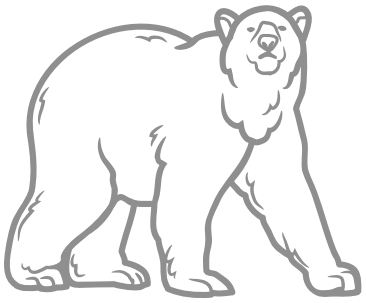
The Co-ordinators noted many factors that are critical for wildlife conservation:

- Accessing local Inuit and Inuvialuit knowledge about seasonal wildlife presence and connections with habitat conditions (e.g. knowing belugas are found in shallow water);
- Ensuring the continuation of healthy wildlife populations;
- Harvesting and trapping;
- Prioritizing conservation values that are embedded within Inuit Qaujimajatuqangit. For instance:
  - Ensuring harvests are not wasted; and,
  - Long-term preservation and continuance of Inuit Qaujimajatuqangit values and practices including ways to sustainably harvest.
- Harvesting restrictions and regulations, implemented and enforced, to protect wildlife populations to avoid extinction and thus keep Inuit and Inuvialuit traditions and culture alive. This includes:
  - Tags (e.g. caribou, muskox, polar bear);
  - Hunting seasons, locations, and restrictions;
  - Licenses (fishing, hunting) for southerners; and,
- Making sure not too many animals are caught (enforcement).

Sandra Aqqaq
Taloyoak, Nunavut

"We need these [wildlife] populations to [be able to] keep continuing what we are doing."





2.Governance and Leadership

The SmartICE Community Co-ordinators' experience was that conserved and protected areas are most often operated through federal-government-level leadership (for example Fisheries and Oceans Canada) whereas Inuit and Inuvialuit are more often hired as cooks or guides (i.e. not in leadership positions). The Co-ordinators noted that for conserved and protected areas with Inuit Impact Benefit Agreements in Inuit-owned lands, Inuit are involved in decision-making.

They also recognized that in Nunavut, Institutions of Public Government (e.g., Nunavut Water Board) do a lot of work related to marine conservation. They also said that conservation is a topic that comes up frequently at community meetings, public meetings, and annual general meetings.

The Co-ordinators vocalized that a critical part of leadership is selecting the right voices, meaning, those who are knowledgeable and accurately represent Inuit and Inuvialuit and the truth/lived experiences of Inuit and Inuvialuit. An example was given of celebrities speaking out about seal harvesting without having the full story nor understanding what seal hunting means to Inuit and Inuvialuit.

A key aspect of governance and leadership identified by the Co-ordinators is building capacity through communicating and learning from other groups doing conservation work.

"Selecting the right voices and representatives for our issues... Inuit need more input in decision- making".

Leanne Beaulieu
Gjoa Haven, Nunavut

3. Drawing on Inuit and Inuvialuit Knowledge

The SmartICE Community Co-ordinators indicated how important it is for Inuit and Inuvialuit knowledge to be drawn on during marine conservation efforts (see p. 18).

Photo: Natalie Carter

4. Local Economies

Photo: Andrew Arreak

The Co-ordinators noted that to some extent marine conservation and other protected areas benefit their community economies. In many communities, some Inuit and Inuvialuit are paid to monitor and protect their land and waters. In Taloyoak, the Hunters and Trappers Association employs adults and youth as guardians to monitor select dangerous areas, support local research and wildlife sampling, and provide support and education for local community members.

In many communities, Inuit and Inuvialuit have salaried positions (e.g., Environment Officer or Conservation Officer). However, these positions often require secondary and post-secondary education and thus are not accessible to all experienced harvesters. Sometimes knowledge holders and mentors receive payment, and staff are paid for their involvement in education and youth programs (e.g., the Young Hunters Program run by Arviat Aqqiumavvik Society.

Through harvesting in protected and other areas, community members can sell jewellery, pelts, tusks, skulls, furs, carvings, decorations, and meat, to associations such as the Hamlet.

5. Training

The SmartICE Co-ordinators noted that for Inuit and Inuvialuit to be meaningfully involved in marine conservation there is a need for people with on-the land experience, Inuit Qaujimajatuqangit, skills, knowledge, and capacity. It is vital that training opportunities reflect, and are considerate of, northern realities and Inuit and Inuvialuit values.

The Co-ordinators described training needs related to marine conservation and for community members who access marine and other areas, including:

- Marine and sea ice safety;
- Swimming (and the importance of life jackets);
- Connections between weather and other environmental indicators. For instance:
  - how to interpret ice conditions from weather indicators;
  - knowing that a dark spot in the clouds indicates that the ice is dangerously thin;
- Knowing the local harvesting area and gaining travelling knowledge. For example:
  - travel routes
  - weather that one should and should not travel in, and,
  - what to pack when going harvesting;
- Oil spill response and spills containment;
- Search and rescue;
- Firearms safety; and
- First aid.

Zachariah Owingayak
Arviat, Nunavut

"[In Arviat] the Aqqiumavvik Society provides hands-on training to local students to keep them learning land skills such as skinning, building sleds, and filleting fish through the Young Hunters Program."

Photo: Renata E. Mares

6. Research and Monitoring

The SmartICE Co-ordinators spoke of the importance of environmental monitoring that would enable community members to learn and observe how animals and plant life flourish and interact, ***so they better understand ways to take care of animals and plants and the environment as a whole***.

Some important aspects of this included:

- Health assessments and sampling practices (e.g., assessing fish skin, tails, and stomachs for signs of disease or contaminants);
- Characteristics and distribution of disease within populations (e.g., rabies);
- Harvest monitoring including documenting seasonal wildlife mobility and population health and size, including through wildlife surveys;
- Monitoring and testing marine conditions (e.g., conductivity, temperature, depth (CTD) measurements);
- Monitoring sea ice thickness and generating ice hazards maps using satellite imagery; and,
- Monitoring and managing anthropogenic pollutants and disturbances (i.e., marine shipping, contaminants, garbage, pollutants) and investigating their potential impact on local ecosystems.

“Keeping track of ships and vessels entering into our water is marine conservation”

Dawson Elias
Tuktoyaktuk,
Northwest Territories

Photo: Natalie Carter

6. Research and Monitoring *(Continued)*

The Community Co-ordinators spoke of the need for transparent, direct, and frequent communication among those involved in local and regional marine conservation efforts (including researchers and community members). Transparency is important in order for community members to be informed about local projects and be able to assert their rights to determine activities conducted in their regions.

An example was shared of a researcher who confined goslings in a tiny enclosure to see how much space they needed, and the goslings died. Community members who learned of this were worried about the way the project was conducted, and shared their concerns with the researcher.

The Co-ordinators noted that there is a lot of conservation and environmental monitoring work being done by different groups. It is important for those groups to work together and not repeat unnecessary work. The Co-ordinators also encouraged those groups to find out what has been done, and what is being done, to avoid duplication of effort.

Leanne Beaulieu
Gjoa Haven, Nunavut

"[We need to] understand what is happening [around our communities] and have control over who comes in and does what."

Research and monitoring need to be Inuit- and Inuvialuit determined. Inuit and Inuvialuit need to be the ones deciding what is and is not appropriate for wildlife in their homelands. Inuit and Inuvialuit need to be included in all aspects of research planning, data collection, analysis, and how research and monitoring results should be mobilized inside and outside of their communities.

7. Education and cultural awareness training for non-Inuit and non-Inuvialuit people

During our discussions the SmartICE Community Co-ordinators stressed the importance of educating non-Inuit and non-Inuvialuit people on Inuit- and Inuvialuit-determined values and ethics of marine conservation.

Central to this was the importance of increasing cultural awareness so non-Inuit and non-Inuvialuit do not negatively or erroneously judge Inuit and Inuvialuit about harvesting. It is important for non-Inuit and non-Inuvialuit to understand the Inuit and Inuvialuit values being upheld through harvesting and other practices.

An example was given of what can happen when celebrities and others lack cultural awareness and make statements against harvesting. In 2014, in response to Academy Awards host Ellen DeGeneres' selfie that promoted an anti-sealing stance, the photos of Inuit and others eating seal meat, standing beside freshly killed seals, or wearing sealskin clothing, began being posted on Twitter (the #sealfie campaign). Inuit used "sealfies" to defend their right to practice traditional harvesting, to depict how practically and culturally seal hunting is necessary for Inuit, and to demonstrate the role of Inuit commercial seal harvesting, as well as the drastically reduced dollar value of seal pelts and meats, and the subsequent impact the sealing ban had (and continues to have) on Inuit.

"...the #sealfie campaign... [countered] a colonial narrative entrenched within anti-sealing campaigns as well as signalling to a global audience that the Inuit are resilient and persist in living off the land."
(Rodgers and Scobie, 2015)

Inuit gather in Iqaluit for #sealfie.
Photo: Twitter/Temela

Knowledge Exchange about Inuit-led marine conservation in SmartICE-served communities

The SmartICE Community Co-ordinators exchanged knowledge with one another about Inuit-led marine conservation, and activities such as environmental and harvest monitoring that support Inuit-led and Inuvialuit-led conservation, in and around their communities.

Tuktoyaktuk, Inuvialuit Settlement Region

Several of the environmental monitoring initiatives happening in Tuktoyaktuk share six operators/monitors. Their time is co-ordinated by a central office that schedules the six employees across all monitoring initiatives.

- Community Climate Resilience Project is a monitoring program about 20 km from town to check the snow depth and weather at the site (cloud, temperature);
- Pingo monitors (new program) - check snow depth on pingos because of splitting;
- Marine Awareness Information System (MAIS); inReach devices for hunters;
- Tuktoyaktuk Hunters and Trappers Committee monitoring; and,
- Observations such as ice thickness and results of conductivity, temperature, depth (CTD) tests are posted in SIKU.

Knowledge Exchange about Inuit-led marine conservation in SmartICE-served communities *(Continued)*

Arviat, Nunavut

- During the summer, Aqqiumavvik Society is mapping the ocean floor using Hydroblocks mounted on the back of boats; and,
- During the winter, SmartICE operators are active on the sea ice.

Gjoa Haven, Nunavut

- Wrecks of HMS Erebus and HMS Terror National Historic Site. Parks Canada and the Nattilik Heritage Centre are leading this. This includes a Guardians Program and also opportunities for income for boat renting and guiding; and,
- Queen Maud Gulf (Ahiak) Migratory Bird Sanctuary; on the mainland, a co-management committee makes decisions; and
- Local greenhouse production of berries that no longer grow on King William Island, led by Arctic Research Foundation.

Photo: Renata E. Mares

Knowledge Exchange about Inuit-led marine conservation in SmartICE-served communities *(Continued)*

Taloyoak, Nunavut

- The Spence Bay Hunters and Trappers Association put a temporary stop to buying caribou and other mammals to protect calving and mothers/young; and,
- The Taloyoak Guardians in spring 2022 set posts on the ice to alert travellers about sea ice cracks on the trail to Gjoa Haven.

Pond Inlet, Nunavut

- Northwest Passage - annual meetings to discuss where the boundaries for the marine conservation area (above Pond Inlet) at eastern end of the Northwest Passage Lancaster Sound should be;
- An oil and gas company wanted to explore for oil and gas and the request was denied because of efforts with protected area; and,
- The Qikiqtani Inuit Association led Nauttiqsuqtiit Inuit Steward program for Tallurutiup Imanga National Marine Conservation Area.

An important outcome of the workshop was learning that many of the northern federal or territorial conservation initiatives were not well understood by the SmartICE Community Co-ordinators, as they were not aware of some of the initiatives happening around their communities. Co-ordinators were very interested in the facilitators' presentation about protected areas and co-management processes happening around their communities (see separate Backgrounder report created).

Knowledge Exchange about Inuit-led marine conservation in SmartICE-served communities *(Continued)*

The Co-ordinators identified the need for a knowledge exchange within and between communities, as well as with federal and territorial conservation leaders, in order to enhance local understanding and awareness of marine conservation efforts (see p. 26-29).

The Co-ordinators identified that an opportunity exists for federal and territorial conservation leaders to further expand their efforts to engage with a broad range of community members to raise awareness of conservation efforts.

Community concerns about protected and other areas near communities

The SmartICE Community Co-ordinators shared numerous community concerns related to protected and other areas in and around their communities:

- Pollution and sewage
  - e.g., trash and cigarette butts being left on the land, garbage blowing out of the un-fenced dump and onto the land;
- Marine vessel traffic
  - e.g., ships dumping, visitors and adventurers entering local waters;
- New and potentially invasive species;
- Unpredictable sea ice conditions;
- Mining;
- Contaminants in wildlife such as mercury and iron ore dust;
- Diseased fish and marine mammals (e.g., sea lice, worms); and,
- Wasted meat including sport fishing/derbies where fish are not eaten.

Indicators of Inuit- and Inuvialuit-led marine conservation

The Co-ordinators noted several facets of existing Inuit- and Inuvialuit-led marine conservation and related efforts. The approaches, if applied in marine conservation and other protected areas planning and implementation, will result in enhanced involvement of Inuit and Inuvialuit, including in decision-making matters. If marine conservation was truly Inuit- and Inuvialuit-led:

- It would incorporate the 4 overarching themes and 7 key aspects of marine conservation initiatives (p. 3-11);
- It would be ***for*** and ***by*** Inuit and Inuvialuit;
- Inuit and Inuvialuit would give more input into decisions than they currently do;
- A wide range of perspectives and Inuit and Inuvialuit knowledge from all ages and genders would contribute to conservation efforts;
- Community members would have an office to go to that has all relevant and necessary monitoring and conservation data that is available for the community;
- There would be local salaried positions, dedicated to connecting and informing marine conservation initiatives, and full-time interpreter/translators.
- People holding salaried positions would be locally hired (even non-Inuit/Inuvialuit who grew up in that community);

Photo: SmartICE

Indicators of Inuit- and Inuvialuit-led marine conservation *(Continued)*

- Training would be provided in appropriate and relevant skills that are needed to be able to provide meaningful input into conservation decision-making;
- Conservation activities would be transparent. Community leaders explain how initiatives are going, building trust within the community. People from outside the community, who are involved in marine conservation initiatives, should do the same;
- All communications would be translated and non-technical;
- There would be opportunities to discuss relevant topics, including using community radio more (when stations are operational, for call-in shows and announcements), as well as other inclusive options for reaching out to the community to raise awareness (e.g., store bulletin boards, contacting schools to share with student groups, email, Facebook posts); and,
- Some Inuit and Inuvialuit would be more open to sharing and being involved.

Photo: Gita Ljubicic

Including Inuit and Inuvialuit Knowledge in Marine Conservation

The SmartICE Community Co-ordinators described many ways in which Inuit and Inuvialuit and their knowledge can play a central role in marine conservation:

1

Incorporate Inuit and Inuvialuit knowledge, beliefs, values, and priorities. Trust Inuit and Inuvialuit. Listen to what they are saying. They have the expertise that is needed, and knowledge that can inform decision-making. The knowledge is there, there is no need to bring in other knowledge. Inuit and Inuvialuit know the areas, the seasons, the animals, and what to expect. Tap into existing knowledge hubs such as the Government of Nunavut, Nunavut Wildlife Management Board and ArctiConnexion.

2

Document Elders' knowledge because it is all passed down orally. It is important to have this as digital or written records, to be able to continue teaching it. Arviat Aqqiumavvik Society has an Elders' program. They regularly meet with Elders to interview and host discussions with them, and their knowledge is documented. Platforms such as Isuma TV could share this knowledge broadly.

3

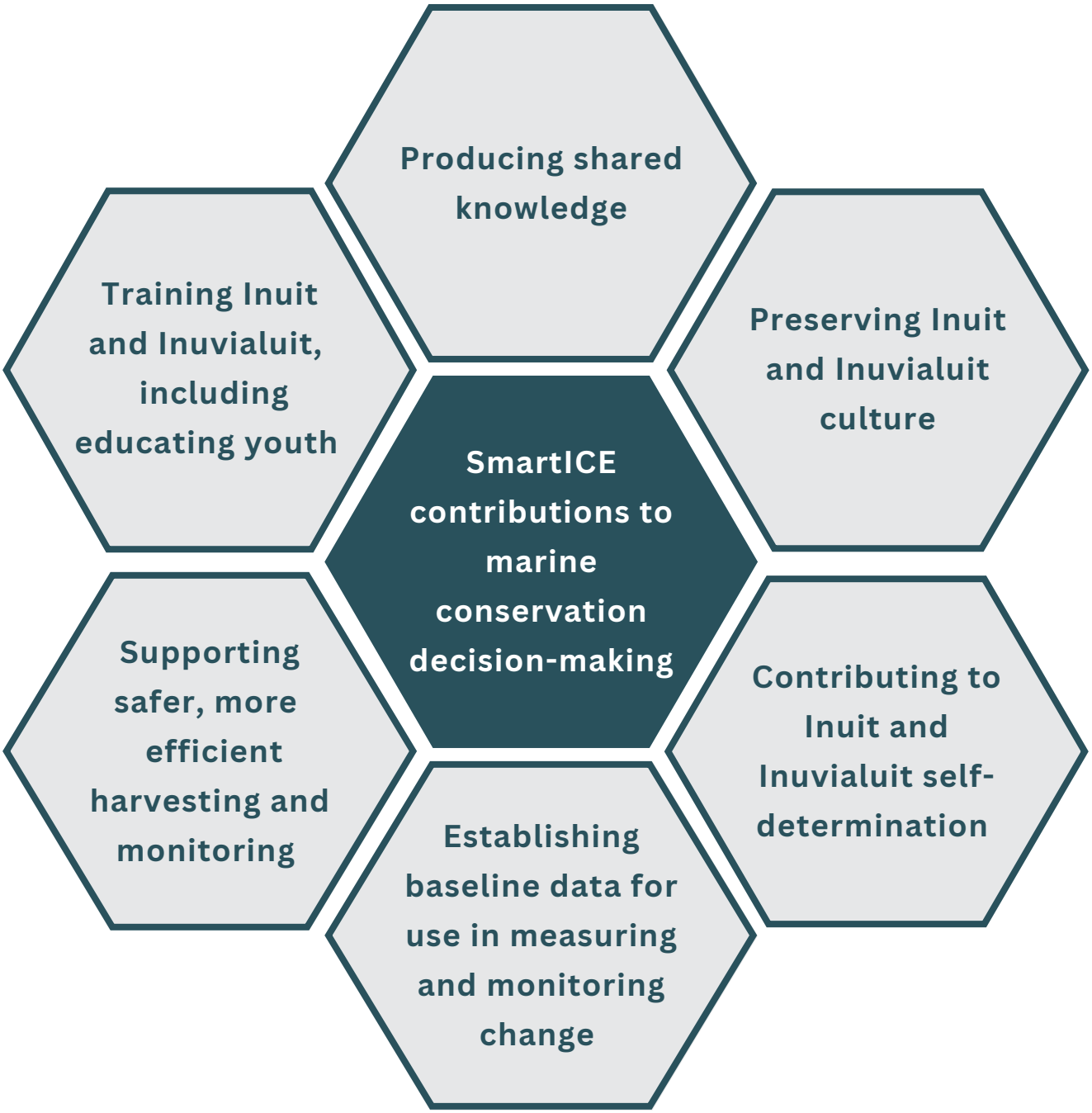
Involve Inuit and Inuvialuit in decision-making including deciding what should be protected and what related research and monitoring should be done. This includes involving Elders because they know what is important/priorities. Elders should be the ones to determine what needs to be done and how to conserve. At the same time, help the older generation know what is happening. Unprecedented change is happening today that Elders did not experience in the past.

4

Create and support hands-on education opportunities for Inuit and Inuvialuit to share their knowledge with others. This includes Inuit-relevant sources of training, land-based experiential learning, and highlighting Inuit-determined knowledge, as opposed to western-focused (classroom-based) education.

How SmartICE can contribute to marine conservation decision-making

The SmartICE Community Co-ordinators identified a range of ways in which the work they are doing to map ice conditions and document sea ice terminology in their communities, can contribute to marine conservation decision-making.



How SmartICE can contribute to marine conservation decision-making *(Continued)*

Producing Shared Knowledge

- SmartICE is creating a knowledge database of very specific information about lake and sea ice conditions, that can inform decisions about existing conservation areas.
- SmartICE Community Co-ordinators document the knowledge shared by SmartICE Community Management Committees, which include Elders, hunters, youth, and other community representatives (e.g., Hamlet Council, Hunters and Trappers Association, Search and Rescue, Wildlife Officer, and tourism outfitters).
- The documented knowledge is available and accessible and can be used to inform conservation decision-making. For example, the location and characteristics of sensitive and hazardous areas are documented in SmartICE-serviced communities. This information is available to community members to use when advocating to protect such areas through restrictions or prohibitions of certain activities (e.g., marine shipping, oil and gas exploration).

Photo: Natalie Carter

How SmartICE can contribute to marine conservation decision-making *(Continued)*

Establishing Baseline Data for use in Measuring and Monitoring Change

- The SmartICE Community Co-ordinators look at and work with satellite images of sea ice every week and every year, thus they are creating a knowledge database for their community about ice conditions. That database can inform decisions around existing conservation areas; for instance, whether the boundaries and regulations need to stay the same or change.
- This baseline information is critical information that can be used to measure how much change is happening. Conservation is not just about how everything is now. It is about being able to monitor change. As the Co-ordinators monitor the lake and sea ice and map it on paper or satellite maps, they will see what is changing and understand which areas are going to become more vulnerable (e.g., sea ice changes that become increasingly dangerous over the years).

Training Inuit and Inuvialuit

- Sea ice terminology and maps are shared with younger generations and really get people talking. SmartICE-documented information, including the community-specific sea ice terminology books can be shared with schools, Government of Nunavut offices, and programs that teach about the local area.
- Teenagers are becoming increasingly interested in the work that SmartICE does, and the knowledge shared.

Zachariah Owingayak
Arviat, Nunavut

"Having an open-door policy – they can come in anytime and start asking about [our SmartICE work]. It usually works slowly but there is always a person coming. Then word starts to spread. And from my experience these teenagers spread the word faster than anyone. Last weekend, one of them came. [The] next weekend, six of them came."

How SmartICE can contribute to marine conservation decision-making *(Continued)*

Preserving Inuit and Inuvialuit Culture

- The sea ice terminology work contributes to Inuktut language preservation.
- Often when there is a dangerous area that community members need to be aware of, the dangerous area has a name. Those place names ice terminology come up in conversations during mapping exercises, which contributes to language and cultural preservation.
- The SmartICE operators are frequently out on the land, and through that practice, they are keeping their culture alive as well as learning about their local environment every day.

Dawson Elias
Tuktoyaktuk,
Northwest Territories

"One really good way that SmartICE keeps our culture and traditions alive is by going out with our guides..who bring us through our land, show us our land. They make sure that we don't go through rough ice or around dangerous ice... All that [knowledge] we pick up when we go out [on the land] with Elders, we then pass it on to others...

And so, this work really is good for younger people like myself. I am learning more...I am still learning every day how to travel and navigate where I am. Even the Elders they still learn it every day."

How SmartICE can contribute to marine conservation decision-making *(Continued)*

Supporting Safer, more Efficient Harvesting and Monitoring

- SmartICE Community-Co-ordinators map Inuit and Inuvialuit knowledge of the local sea ice and make that information accessible to community members. They also create and share sea ice travel hazard maps using satellite imagery. Through these products community members gain knowledge of ideal, safe travel routes; making it easier for community members to travel safely whilst being fuel-efficient and decreasing the incidence of damage to snowmobiles caused by rough conditions. As well, having access to safe travel information makes harvesting accessible to more individuals, resulting in an overall increase in harvesting.
- With SmartICE, Tuktoyaktuk community members are developing posters outlining how to read snow drifts in order to get home safety.
- SmartICE trainer Lynn Moorman reported that the SmartICE Community Co-ordinator in Nain, who is highly experienced on the land, noted that last year when looking at his satellite images and doing his weekly maps he learned a lot, including about places that he didn't know before. So, even someone who is very experienced can learn from SmartICE's sea ice work.
- Junior Canadian Rangers, Canadian Rangers, and Guardians travel year round. The information provided by SmartICE facilitates safe and cost-effective trip planning for these groups.

How SmartICE can contribute to marine conservation decision-making *(Continued)*

Contributing to Inuit and Inuvialuit Self-determination

- SmartICE-serviced communities own and have access to their own data. When a need arises, they can say, 'This is where we go and what seasons we go there'. If oil and gas exploration is being considered near SmartICE-serviced communities, the information mapped through SmartICE will demonstrate that the knowledge shared is not word of mouth. Rather, SmartICE Co-ordinators can back up their community with their own data.
- The skills that SmartICE operators gain through experiential learning, and the equipment made available to them, empowers SmartICE communities to research topics that are a priority for them. For example, if a community notices a decline in a certain fish population, SmartICE operators can do a conductivity, temperature, and depth (CTD) test to see if the cause is low salinity or a change in water temperature over time.

Andrew Arreak
Pond Inlet, Nunavut

"We are documenting our SmartICE readings and if an oil and gas company came to one of our communities, we can show them what work has been done out on the ice, that is being monitored by the community.

So, it won't be all just word of mouth...[we] can back up what the community is saying."

How SmartICE can contribute to marine conservation decision-making *(Continued)*

Contributing to Inuit and Inuvialuit Self-determination *(Continued)*

- The SmartICE Community Co-ordinators are learning transferable skills. While they are mapping very specific information about ice, knowing how to make a paper map and add their own data (and then digitize the data) can be applied to document knowledge about a broad range of topics. This means SmartICE-serviced communities are empowered to map environmental, wildlife or other priority areas. As well, the Co-ordinators can pass on their knowledge and train others in their communities to develop similar skills.

Dawson Elias
Tuktoyaktuk,
Northwest Territories

"And [our data] just builds up over the years and we can see how it was years ago: how much salt is in our water how cold is the water...It is a really good thing for all the small communities, it is just different work and fun work, and we are all learning something at the same time."

Priority Areas for Future Initiatives

During the final day of the workshop, discussions focused on priority areas for future work.

The SmartICE Community Co-ordinators identified six main areas of interest:

Priority Areas for Future Initiatives
(Continued)

1 Sharing information on conservation activities

Community members need more information about conserved areas and monitoring happening around their communities in order to be informed and to meaningfully engage in conservation decision-making. This includes learning from members of other Nunavut and Inuvialuit communities, especially those in their same region.

2 Knowledge exchange events

Additional knowledge exchange events are needed wherein rights holders (e.g., co-management committee members, Hunters and Trappers Association members); stakeholders (federal/ territorial government); and groups leading monitoring activities, gather to learn from each other. As part of this, a community knowledge exchange is necessary, where members of different communities in the same region can gather to share and learn about their efforts and best practices.

Key factors to consider for a knowledge exchange:

- It must be inclusive to everyone and not just certain families or southerners;
- Before the event the community must be asked, through an annual general meeting, what their key messages are for visiting representatives gathered for such an event;
- Communication with the communities must be clear and frequent before, during, and after the event; and,
- Community members must be employed through this event.

Priority Areas for Future Initiatives *(Continued)*

3 Synergies between community-led initiatives

SmartICE Co-ordinators highlighted their interest in investigating opportunities for data collected through various community-led initiatives to be combined to make products that support community needs. For example, Jimmy Muckpah identified an opportunity to “Combine the Hydroblock [bathymetry] and SmartICE data using software and be in control of making products with that information”.

4 Mapping shallow waters

Mapping and marking shallow areas in the ocean is important to develop programs that can help with understanding the associated hazards. Knowing shallow areas can save lives.

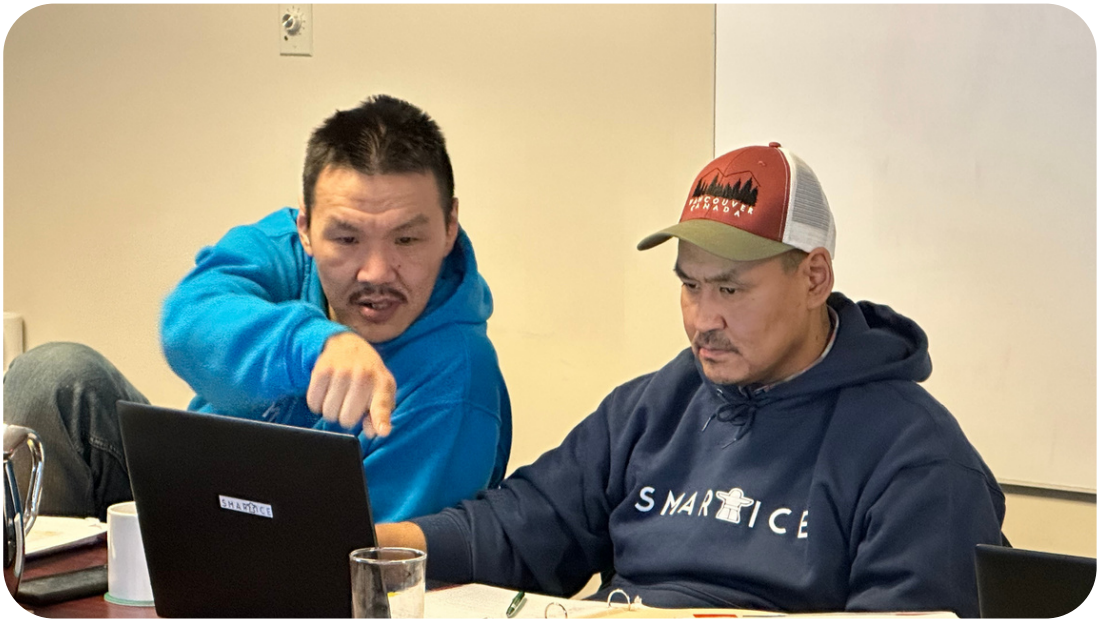


Photo: Natalie Carter

Priority Areas for Future Initiatives
(Continued)

5 Infrastructure and transportation

Increase Inuit and Inuvialuit access to infrastructure and transportation (boats, all-terrain vehicles, snowmobiles) that could support monitoring programs and marine conservation activities. More Inuit- and Inuvialuit-led research and monitoring is possible, but the high cost and lack of transportation are limiting factors. Lacking access to a heated garage to be able to maintain and repair equipment is also a limiting factor.

6 Local training opportunities

Train more Inuit and Inuvialuit youth. This is always a priority and is vitally important. Many job requirements make it hard for Inuit and Inuvialuit to be hired. It is very difficult for Inuit and Inuvialuit to leave their communities for training so training needs to be locally accessible. Some topics of interest include driving and repairing machines including small engine repair, as well as guiding.

Sandra Aqqaq
Taloyoak, Nunavut

“Inuit are interested in programs like SmartICE training, but there are not very many that we can take or that are offered.”

Conclusion

The experiences of Inuit and Inuvialuit community members are crucial to document and understand in the context of current co-management approaches and mandates, as well as the evolution of proposed protected areas in Inuit Nunangat (including Inuit-led). Through this project, we created opportunities for Inuit and Inuvialuit knowledge-sharing amongst SmartICE Community Co-ordinators, each of whom has unique experiences. This helped to initiate a dialogue about Inuit and Inuvialuit knowledge and engagement in marine conservation in Inuit Nunangat.

Through this workshop we documented Inuit and Inuvialuit definitions of marine conservation and exchanged knowledge about Inuit-led marine conservation in the five partner communities.

Additional workshop topics included identification of community concerns about protected and other marine areas, indicators that marine conservation is truly Inuit- and Inuvialuit-led, and ways to include Inuit and Inuvialuit knowledge in marine conservation. We also identified ways that SmartICE can contribute to marine conservation decision-making.

The final stage of the workshop was to better understand potential future initiatives that are a priority for community members.

An important outcome of the workshop was learning that many of the northern federal or territorial conservation initiatives were not well understood by the SmartICE Community Co-ordinators, as they were not aware of some of the initiatives happening around their communities.

We offer the knowledge that was documented through this workshop in hopes that it can inform:

- the vision for Aviqtuuq Inuit Protected and Conserved Area, being developed around Taloyoak; and,
- co-management of protected areas near the other four partner communities (Arviat, Gjoa Haven, Pond Inlet, and Tuktoyaktuk).

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Photo: Lynn Moorman

Photo: James Nanau Tagalik

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