



A UNESCO THEMATIC NETWORK ABOUT
UNESCO BIOSPHERE RESERVES AND NORDICITY

Annual meeting report – 2015

Nedre Dalälven River Landscape Biosphere Reserve,
Sweden, October 2015

Jean-Philippe Messier, Manicouagan-Uapishka BR
Johanna MacTaggart, Swedish MAB



BACKGROUND

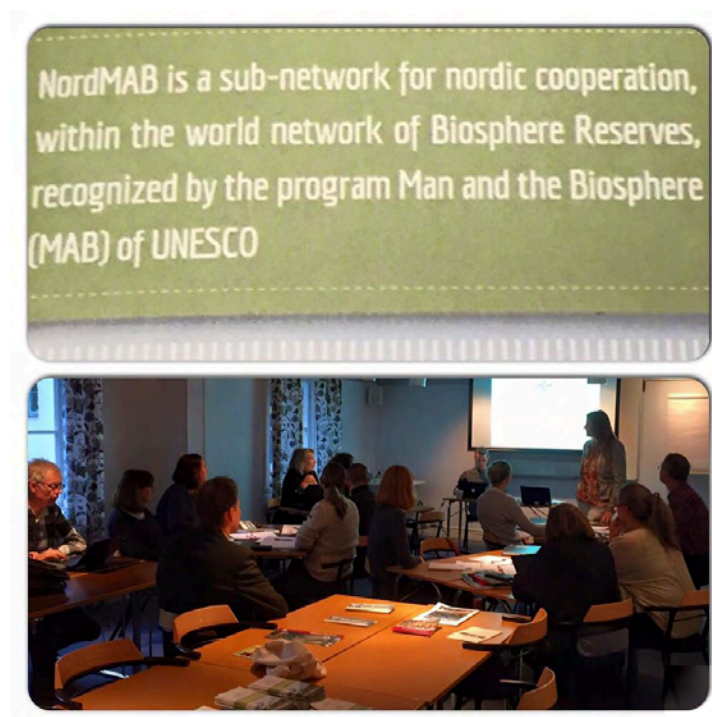
NordMAB is a subnet for Nordic cooperation, a part of the global network of Biosphere Reserves (BR), recognized by the Programme on Man and the Biosphere (MAB) of UNESCO.

In 2005, the Nordic Council of ministers financed a study on the establishment of NordMAB. The study concluded the following:

- A network for people working in biosphere reserves or otherwise involved in the MAB-programme in the Nordic region is highly desirable.
- The network should be named “NordMAB”.
- The organisation status of the network should be: “A network of expertise on Biosphere Reserves in the Nordic region»

Following those recommendations, NordMAB had been put in place and in 2011 a first official meeting was organised:

- 2011: Lake Vänern Archipelago BR (Sweden)
- 2012: North Karelia BR (Finland)
- 2013: Manicouagan-Uapishka BR (Canada)
- 2014: Archipelago Sea (Finland)
- 2015: Nedre Daläven River Landscape BR (Sweden)



Action report since last annual meeting

Action agreed to be undertaken at the 2014 NordMAB annual meeting	Progress	Action
NordMAB will organise annual meeting in 2015	Done	Meeting organised in Nedre Dalälven River Landscape Biosphere Reserve, Sweden, 19-21th October 2015
NordMAB will search and apply for funding	Done	<ul style="list-style-type: none"> Funding request to the Nordic Council of Ministers (NCM) for 2015 action plan: Accepted Funding request to the Northern Periphery and Arctic (NPA) programme: Declined but resubmission: waiting for reply. Looked at the EU Biodiversity for Life Flagship Initiative (B4Life): No submission in time. Funding request to the Nordic Council of Ministers (NCM) for 2016 action plan: Waiting for result.
NordMAB will ensure constant communication	Done	<ul style="list-style-type: none"> Website online: www.nordmab.com (see annex 4) Website is a platform for communicating objectives, news, events, projects and documentation NordMAB was present in EuroMAB conference in 2015 that was the occasion to follow up on the projects and to introduce Denmark to the network. Both a member meeting and a workshop to promote NordMAB NordMAB Facebook group is active. Newsletter to NordMAB mailing list
NordMAB will reinforce its structure	Done	<ul style="list-style-type: none"> NordMAB better defined its definition, its member structure and common challenges (see next section in this report) North-East Greenland was previously inactive in NordMAB but is now part of the network. A representative attended 2015 annual meeting Nordhordland, as a BR candidate, submitted their preparatory study document to Norwegian MAB Committee Vindelälven-Juhtatdahka, as a BR candidate,

		<p>submitted their preparatory study document to Swedish MAB Committee and it was accepted in February 2015</p> <ul style="list-style-type: none"> - Great Bear Lake (Canada), as a BR candidate, submitted a first nomination document to Canada MAB committee - Denmark started a BR project and attended the NordMAB workshop during EuroMAB 2015 and the NordMAB annual meeting - Swedish MAB had a consultation meeting with Icelandic National Commission of UNESCO and governmental agency
NordMAB will undertake a project in work area a (fostering northern sense of belonging) called NordMAB on Ice.	Done	<ul style="list-style-type: none"> - Project was to provide a two youth from the Manicouagan region with a transformative experience and put them in touch with other youth from around the world, especially the Nordic regions, as part of a stimulating learning process focused on field experience. - Outcomes were: A call for action and a video to be presented in Canadian events as well as at the Youth world forum of UNESCO. <p>English : https://youtu.be/2iNb0anqGH0 Français : https://youtu.be/jP-Y_FcS30k</p> <p>See full report in annexe 5.</p>
NordMAB will undertake a project in work area b (collaboration with private sector)	Done	<p>Manicouagan BR created a tool for sustainable mining in BR that has been shared among NordMAB members at annual meeting 2015.</p> <p>Lake Vänern Archipelago BR co-hosted a conference about social entrepreneurship in BRs where both authorities and social enterprises were present</p>
NordMAB will undertake a project in work area c (Usage of traditional knowledge and scientific research in Biosphere Reserve management)	Done	Vindelälven-Juhtatdahka candidate and Manicouagan BR has organized a capacity building mission. Manicouagan representatives, along with Pessamit Innu Nation and the Chair of Canada MAB Committee went to Sweden to understand the Sami traditional herders way of living, to meet with local stakeholders and to enhance the idea of a Biosphere Reserve in the area.
NordMAB will enhance its presence and visibility by attending UNESCO events	Done	<ul style="list-style-type: none"> - Presence at UNESCO EuroMAB conference. Workshop organized, https://www.conference-expert.eu/en/euromab-2015-haapsalu/177-event-programme. Haapsalu, Estonie. May 20 - 22 mai 2015

		<ul style="list-style-type: none"> - Presence at the Swiss Commission for UNESCO conference "Assessing the values of UNESCO at national level in the framework of the existing methodology". Lugano (Switzerland). August 26th-28th. - Presence at the Swedish national MAB workshop: Biosphere Reserves as solution oriented arenas for conflicts of interest. Voxnadalen Biosphere Candidate Area (Sweden). 30 September-1 October. - Presence at Intergovernmental Coordinating Council of the MAB Programme in Paris, 8-12th of June
NordMAB will enhance its presence and visibility by attending North related event	Done	<ul style="list-style-type: none"> - Presence and workshop given at 2015 Nordic development symposium in Québec (Canada). Feb 23-26 2015. - Presence at 2015 Arctic Circle conference. Breakout session offered, led by of two First Nations leaders (Sami and Innu) and two UNESCO Biosphere Reserves' national coordinators (Sweden and Canada). Presentation presented UNESCO's biosphere reserves program, NordMAB and its outcomes. Reykjavik (Iceland). October 16-18, 2015. See Break out session content annexe 6.

Definition and structure

The definition of NordMAB is:

NordMAB is a thematic network within UNESCO's Programme of Man and the Biosphere (MAB), with the objective of enhancing cooperation among Biosphere Reserves in northern parts of the world.

NordMAB is composed of Northern BRs that share common characteristics and challenges, as well as associates and partners that are interested into those challenges. The Council of NordMAB is including coordinators and experts from all the BRs in NordMAB. The geographical borders are not set and can be handled case by case when needed.

The common characteristic of NordMAB BR are:

- Large territories and small population
- Remote and sparsely populated regions
- Youth leaving for larger centers
- High quality but fragile natural environments
- Abundant natural resources
- Large-scale industrial projects deployment
- Presence of First Nations
- Cold climate
- Arctic, sub-arctic and/or boreal environments

The common challenges and themes found in NordMAB are:

- Conflict resolution
- Sustainable tourism
- Local food promotion
- Nature conservation
- Youth engagement
- Zoning in Biosphere Reserve
- Sustainable industrial development
- Traditional and scientific research
- Social entrepreneurship promotion
- First Nation development
- Climate changes research and mitigation

Considering the above, in 2015, NordMAB is composed of:

Active and designated BRs (red dots on map):

1. Archipelago Sea (Finland)
2. North Karelia (Finland)
3. Blekinge Archipelago (Sweden)
4. Nedre Dalälven River Landscape (Sweden)
5. East Vättern Scarp Landscape (Sweden)
6. Kristianstad vattenrike (Sweden)
7. Lake Vänern Archipelago (Sweden)
8. Manicouagan-Uapishka (Canada)
9. North-East Greenland (Denmark)
10. Western Estonian Archipelago (Estonia)
11. Lapland (Russia)
12. Smolensk Lakeland (Russia)
13. North Vidzeme (Latvia)

Active but not designated BRS (blue dots on map):

1. Vindelälven - Juhtatdahka (Sweden)
2. Nordhordland (Norway)
3. Møns Klint and the island of flint stones (Denmark)

Upcoming new BRs and NordMAB members (blue dots on map):

1. Voxnadalen (Sweden)
2. Great Bear (Canada)

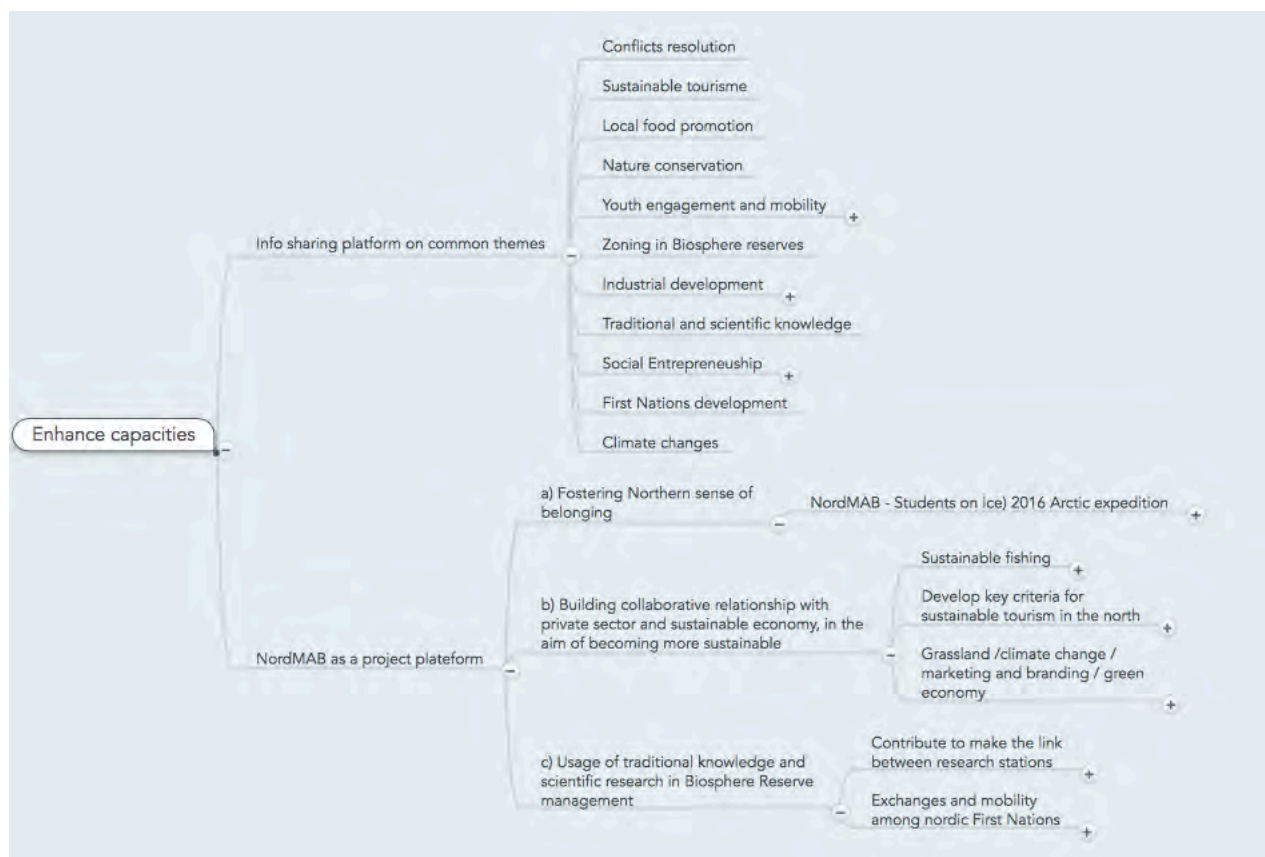


Objectives and outcomes:

Active NordMAB members agreed that to continue strengthening cooperation across Nordic Biosphere Reserves, and create a model of synergy, capacities and management, we need to reinforce NordMAB's Biosphere Reserve's leadership throughout UNESCO and its world network of Biosphere Reserves by three simultaneous strategies:

- 1) Enhance NordMAB's synergy
- 2) Enhance NordMAB's capacities
- 3) Enhance NordMAB's presence

The main outcomes are included in #2 (Enhance capacities). The two main capacities of NordMAB is to be offering a sharing platform on common themes and a project platform on three different project areas (a,b,c), as follow:





PARTNERS

This event was made possible thanks to support of the Nordic Council of Ministers, UNESCO MAB, Swedish MAB and Nedre Dalälven River Landscape Biosphere Reserve.



Nordic Council of Ministers



Annex 1. PARTICIPATION IN THE MEETING

Name	Country	Organisation
Jean Philippe Messier	Canada	Manicouagan Uapishka
Anette Tenberg	Denmark	Møns Klint and the Island of Flintstones
Anette Petersen	Denmark	Møns Klint and the Island of Flintstones
Lia Rosenberg	Estonia	West Estonian Archipelago BR
Julia Scheinin	Finland	Archipelago Sea BR
Peter Longsholm Jølbæk	Greenland	North-East Greenland BR
Kari Evensen Natland	Norway	Nordhordland BR candidate
Göran Blom	Sweden	MAB Programme
Cristina Ericson Turstam	Sweden	River Landscape of Nedre Dalälven BR
Johanna MacTaggart	Sweden	MAB Programme
Ola Jennersten	Sweden	WWF/East Vättern Scarp Landscape BR
Malena Heinrup	Sweden	East Vättern Scarp Landscape BR
Malin Karlsson	Sweden	Vindelälven-Juhtatdahka BR candidate
Hanna Johansson Jänkänpää	Sweden	Vindelälven-Juhtatdahka BR candidate

Annex 2. Program



PROGRAM - NORDMAB WORKSHOP 19 - 21 OCTOBER 2015

MONDAY, OCTOBER 19

Arrival of participants and welcoming dinner at Sätters Stadshotell

TUESDAY, OCTOBER 20

9:00 – 12:00 WORKSHOP 1

Introduction: This is Nedre Dalälven River Landscape

Setting the scene:

- NordMAB's 2015 network framework
- Presentation of new communication material, new regions in the network, financials.

10:00 COFFEE

Update from last session in Finland:

- Countries activities report: one person from each country reporting
- Network activities report: NordMAB on Ice, Innu/Sami partnership, NordMAB promotion

12:00 EXCURSION

Our excursion starts with a short walk in central Säter with 17th-century layout and old wooden buildings. We walk along Ljusterån stream down to the public park of Säter valley to visit the summer pasture and chalet. We also take a walk in the nature reserve, part of the BR's core area, 2,5 km.

13:00 SHORT BUS RIDE to Bispberg

13:15 LUNCH at Bispberg manor

14:00 EXCURSION continues to Bispberg old iron mine and miners' village.

15:00 VISTHUSBODEN, Stora Skedvi – a food region. Farmers and food entrepreneurs working together. Crisp bread bakery which used to be part of a large company. When the company closed the bakery, the local people felt they lost a cultural heritage. They got together and via crowd funding started their own bakery. It now employs the same amount of people as before, roughly, and has gathered people in a common vision.

16:00 COFFEE at the crisp bread bakery

17:00 RETURN TO HOTEL

WEDNESDAY, OCTOBER 21

9:00 – 12:00 WORKSHOP PART 2

including coffee

Looking forward

- 2015-2016 action plan
- Next steps of NordMAB and action required from members

12:00 CLOSING of the meeting

12:30 LUNCH

14:00 DEPARTURE of participants, train to Stockholm Arlanda departs at 14:16

Annex 3. Report from countries

Denmark: Anette Petersen, Mön and Möns Klint

Mön and Möns Klint is a new initiative in south eastern part of Denmark. It is a very special small scale region with high geological assets. It is the first development of a biosphere reserve in Denmark. Two representatives from the aspiring Danish BR participated in the annual NordMAB meeting. There has been established contact to the Secretary General of the Danish National Commission for UNESCO and the Danish UNESCO delegation in Paris which have expressed their support to the project.

Within the project area work is also taking place in order to apply for the Dark Sky Certification and become a Dark Sky Park or Community. Right now, the focus of this BR initiative is sustainable tourism, local products, keeping local identity, sustainability and building pride and enhancing awareness of the local region. There are already several initiatives and projects in the region that may fit well with a future BR.

Estonia: Lia Rosenberg, West Estonian Archipelago BR

The new coordinator of West Estonian Archipelago BR joined the NordMAB workshop. Lia has been working since September and she is looking forward to be completely and positively absorbed by this important task. Recently, the BR has had summer and winter universities for local communities. In this activity they brought together universities and municipalities, entrepreneurs and researchers to introduce and present different topics such as green economy approaches in BR within forestry and bioeconomy, use of renewable energy in BR and waste material as a resource biomass, and sustainable tourism in BR. The BR is celebrating 25 years this year and therefore the BR coordinator has a strong focus on communication activities.

Finland: Julia Scheinin, Archipelago Sea BR

Julia is running the BR while the ordinary coordinator is on parental leave. Julia reports that the initiative around Lake Päijänne is still again active and that North Karelia has been active in developing the following projects:

- A preparatory project named Tourism for Sustainable Heritage Sites in the "Cool North" has been proposed for EU Northern Periphery Programme. The jointly planned project aims at using the nature and culture heritage sites in ways which help maintaining and improving the nature and culture assets and also economy. International networking, best practices from regions in similar situation and better use of modern technology, innovations and partnerships are in the focus. The lead partner is University of Bergen (Norway) and the other partners come from Sweden, Scotland, Finland (NKBR) and Iceland. The godfather of the project has been Professor Martin Price from Scotland.
- The Green Belt of Fennoscandia (GBF) is a nature protection and sustainable development activity along the 1300 km border between Finland and Russia and in the far north also Norway. GBF is also a part of European Green Belt stretching from Lapland to Adriatic Sea along the former Iron Curtain between East and West. North Karelia BR has been one of the initiators of the activity and GBF makes use of the ideas from biosphere reserves. Green Belt

co-operation has been active since early 1990's but a formal memorandum of understanding between Finland, Russia and Norway was signed only in 2010. Three action plans (Lapland, Karelia and Southeastern Finland) covering the whole border area on Finnish side are under acceptance process at the moment. Green Belt of Fennoscandia combines the sustainability actions of many organizations, municipalities, towns, associations etc. and raises the image of the nature and communities at the border.

Finland is part of the steering committee of EuroMAB 2015-2017. In Archipelago Sea BR (the Know Sheep –project and the food handicraft project Mathantverk have been completed. They are currently working on project applications within local food, food handicraft and energy efficiency including rest products re-usage as well as windmill and solar power as sustainable sources of energy. Archipelago Sea BR has also launched the project Gäddan och gänget (Pike and his friends) that raises awareness amongst young generations about what everybody can do to contribute to a cleaner Baltic sea. They are also involved in the planning of thematic courses on sustainability for high schools in the BR.

Archipelago Sea BR had its 20th anniversary in 2014 and they prepare the Periodic Review to be submitted to the MAB Secretariat in 2016. As many other BRs, they have to work actively for keeping the core funding for the BR.

Greenland: Peter Longsholm Jølbæk, North East Greenland BR

The National Park/BR is roughly twice the size of Sweden and it covers nearly 50% of the surface of Greenland. Peter Longsholm Jølbæk came to Greenland to try to revive the National Park. Meetings have been held to find out if there is a future for a BR in Greenland. So far, they have made a draft cooperation plan based on meetings with stakeholders and they have designed a special group to work on the zonation. The zonation is difficult of political reasons, economic interest and biodiversity. There seems to be a positive attitude to restart the process of sustainability within the MAB umbrella. He welcomes input from NordMAB colleagues with regards to the zonation.

Canada: Jean Phillippe Messier, Manicouagan-Uapishka BR

In Manicouagan-Uapishka BR, a decision making tool for mining companies has been developed, aiming to integrate the concerns, aspirations and expectations of the community in a structured way during planning and implementation of the project. It is now tested with real businesses on real projects in the BR, with the effect of making the mining cie identifying concrete ways to meet the principles of sustainability and visualize the effects of decisions made within social, economic and environmental aspects. As well, the BR is establishing a research station within the BR territory, which should be operational in the summer of 2016. Exchanges of researchers and students from the NordMAB network will become a strong objective once it is fully developed.

Norway: Kari Evensen Natland, Nordhordland BR Candidate

Good news from Norway! A national MAB Committee was established in the summer of 2015. This means that the BR candidacy can be endorsed and eventually a nomination can be submitted to

UNESCO for consideration. The BR initiative is going on two years now, and the official application for recognition as a biosphere candidate will be considered in November.

Right now, the BR is working on a project portfolio, including a landscape management plan for the BR, local food products, innovative business development together with a university, a sustainable tourism project within the Northern Periphery Programme (Vindelälven, North Karelia, Scotland, and Iceland). They have also had a branding pilot with Jeff and Laury from Within People which has developed their communications platform. They are currently working on their main BR application and zonation.

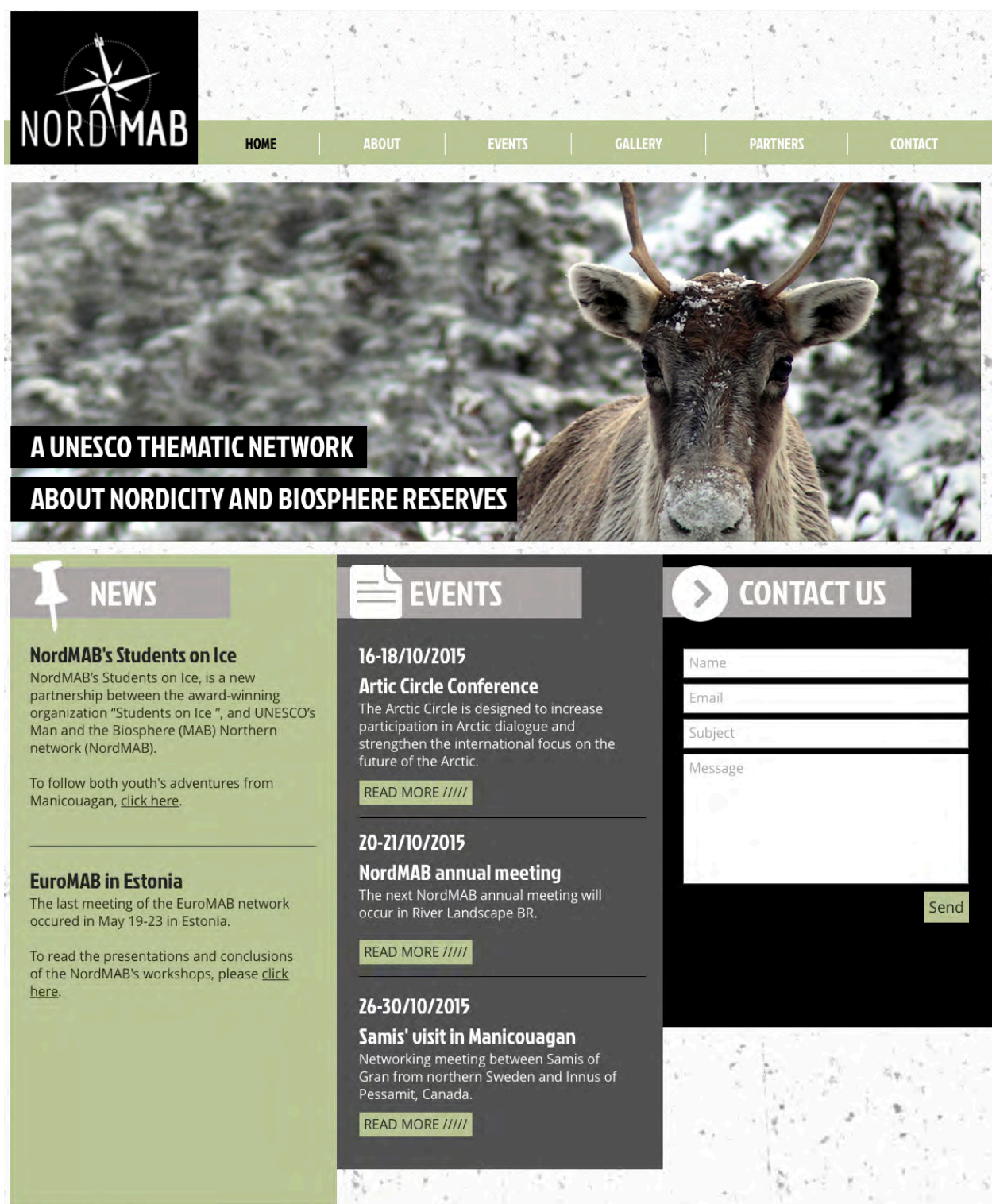
Sweden: Göran Blom, Chair of Swedish MAB Committee

Sweden has a strong focus on communication and making the MAB Programme and biosphere reserves better known nationally. As a result, Sweden now officially refers to the MAB programme as the Biosphere Programme, there is an annual celebration of the National Biosphere Day on June 2nd, and it was recently decided that the local biosphere reserve logo should be a combination logo with the UNESCO temple which will promote the BR being part of a UNESCO programme more widely.

In 2015 so far, Sweden has recognized Vindelälven-Juhtatdahka as a biosphere candidate, celebrated the 5th anniversary of Lake Vänern Archipelago BR and the 10th anniversary of BR Kristianstads Vattenrike. Kristianstads Vattenrike has submitted their periodic review to the MAB secretariat. This is the first periodic review ever to be prepared in Sweden.

2015 has been an eventful year so far. Here are some highlights: The annual workshop was held in September in the region of Biosphere Candidate Voxnadalen. The workshop theme was Biosphere reserves as arenas for conflict resolution. There has also been a special training workshop for BR coordinators about communicating ecosystem services, and Sweden participated in EuroMAB in Estonia with a delegation of 20 people.

Sweden has a representative in the MAB Strategy Group and has also actively given feedback on the work with the MAB Strategy and Lima Action Plan. The ambition is to adapt these documents to national conditions in order to make them more easily accessible for Swedish biosphere reserves. This work is still in progress.



Annexe 5: NordMAB on Ice full report



Organisation
des Nations Unies
pour l'éducation,
la science et la culture



• Réserve de la
• biosphère de
• Manicouagan-
• Uapishka

Project Report

NordMAB - Students on Ice

Presented to the Nordic Council of Ministers

Baie-Comeau, Québec (Canada) | October 2015

www.rmbmu.com

BACKGROUND +

Biosphere Reserves (BR) are learning sites for sustainable development (SD). Upon the recommendation of national governments, these sites are recognized by UNESCO as part of its Man and the Biosphere (MAB) program so as to promote SD based on the combined efforts of local governments and the scientific world.

The MAB brings together a number of agendas – natural sciences, social sciences, economics and education – so as to improve our living conditions and protect ecosystems. It particularly encourages innovative approaches to economic development which respect social, cultural and ecological values. The BR's global network consists of over 600 sites in 120 countries.

These BRs, which include towns, villages and indigenous communities, aim to reconcile the conservation of natural and cultural diversity and to promote economic and social development. BRs are therefore considered:

- + Sites of excellence, where new practices are tested and developed for better management of natural resources and human activities;
- + Tools to assist countries in implementing the World Summit on Sustainable Development's recommendations and, in particular, those from the Convention on Biological Diversity and Ecosystem Approach;
- + Learning Sites for the United Nations Decade of Education for Sustainable Development.

Seeing as they share common characteristics and stakes, the Nordic countries' BRs formed a thematic network called NordMAB, aiming to strengthen cooperation amongst them on the three following objectives:

- 1 Strengthen the feeling of belonging in the North
- 2 Foster collaboration with the private sector in order to become more sustainable
- 3 Use traditional knowledge and research in the management of BRs



OBJECTIVES +

The aim of the project was to provide a two youth from the Manicouagan region with a transformative experience and put them in touch with other youth from around the world, especially the Nordic regions, as part of a stimulating learning process focused on field experience.

Furthermore, NordMAB's Action Plan aims to foster a sense of belonging in the North. The Arctic is a part of the Quebecois and Canadian reality, one which we cannot easily explore. The North, by virtue of its characteristics, connects youth with the world in a profound way and encourages them to understand the complexity of our challenges and opportunities. It is the front line of environmental, cultural, political, social and economic change.

About Students on Ice (SOI)

For the past 15 years, the organization has been deeply committed to educating youth about polar conservation, science, sustainable development, art, culture, politics, environment and general knowledge pertaining to the Polar Regions. An internationally recognized ambassador in polar education, SOI offers a unique opportunity to accomplish the following objectives.

"Our objective is to provide students from the NordMAB network with a transformative experience in one of the most fascinating, wild and grandiose places on Earth. We believe the polar regions to be the best classrooms in the world and powerful platforms for the teaching of history, culture and science, as well as political, social and environmental challenges."

SELECTION PROCESS +

The RMBMU carried out a call for applications via the media and schools in order to recruit two youths from the community, based on the following criteria:

- + The student must have a good knowledge of English;
- + The student must be enrolled in a secondary or post-secondary institution (or be homeschooled) at the time of application;
- + Secondary students must be between the ages of 14 and 18 at the time of application;
- + A limited number of places are available for post-secondary students ;
- + The student must show an interest in issues related to the Polar Regions and must understand that the program is an educational expedition, not a holiday camp. All students must commit to participate fully in all aspects of the program and in research activities before and during the expedition.

Subsequently, a dozen candidates were interviewed bilingually and the RMBMU tried to select the best candidates, preferably a boy and a girl, Innu and Quebecois. In the end, Corine Cadoret, a 16-year-old student at Serge-Bouchard Secondary School in Baie-Comeau, and Noah Picard-Simon, a 16-year-old Innu student at Uashkaikan Secondary School in Pessamit, were chosen.

PREPARATION +

June 29 – Meeting at the Société du Plan Nord in the presence of the MRIF: Introduction to the operation and objectives of the société du Plan Nord and of the youth recruited for the expedition.

July 16 – Skype meeting with Catherine Potvin: introduction of the requirement that the youth write a call to action during the expedition, which could be included in the UNESCO Chair for Dialogues on Sustainability's publication, *Acting on Climate Change*. Sharing of references.

July 26 – Dinner with Catherine Potvin: Look at existing literature and pre-departure briefing on the success factors of a good call to action.

July 27 – Meeting with the Canadian Commission for UNESCO: pre-departure briefing on the objectives of the Commission regarding this project and the success factors of an awareness video, with the goal of having this video shown at the UNESCO Youth Forum.

July 27 and 28 – Pre-departure activities organized by SOI: Team-building and workshops/films/multidisciplinary presentations on topics related to the expedition.

JOURNEY +

Departure from Ottawa, Ontario, to Kangerlussuaq, Greenland, to board the ship.

Exploration of the following communities: Kangerlussuaq, Sisimiut, Ilulissat, Uummannaq, in addition to the coasts, fjords, bays and islands of western Greenland.

Crossing Davis Strait in the Canadian High Arctic and exploring the eastern entrance to the Northwest Passage, including Pond Inlet, Sirmilik National Park, Bylot Island, Qaqsut and Cape Graham Moore, Prince Leopold Island, Caswell and Beechey Island.

The expedition ended in Resolute Bay where the team caught a return flight to Ottawa.



EDUCATIONAL ASPECTS +

The learning objectives before and during the expedition covered a wide range of areas. The students lived a unique educational experience that will transform the way they view the world, based on experience and concrete problems. The practical approach, active participation and critical thinking are important elements in this unique learning process. Multiple forms of education were used depending on the subject under consideration, the location, weather conditions, and the skills and experience of members on board. Here are some examples of presentations, workshops, practical activities and group discussion topics which took place during the expedition:

Areas of Learning Include:

- + Geological, geopolitical, social and cultural history of the region
- + Terrestrial ecology (including flora and fauna)
- + Marine biology (from micro-organisms to cetaceans)
- + Glaciology
- + Oceanography and hydrology
- + Atmospheric sciences
- + History of exploration in the region

Sub-Groups (small groups of students and educators):

- + Peer educational seminars
- + Reflection on the expedition and the experience through a logbook and dialogue
- + Discussions with mentors regarding students' interests and needs

Workshops and Practical Activities (on board and on land):

- + Observation and identification of fauna
- + Scientific research (ex : measuring pollution levels in ice and snow samples)
- + Interpretation of nature through photography and other visual art forms, such as keeping a journal on board, music, etc.
- + Youth forums on leadership and sustainable development
- + Walks and hikes
- + Survey on the expedition's ecological and carbon footprint

See complete educational concept – APPENDIX 1.

See complete educational program – APPENDIX 2.

CONSEQUENCES +

Skills Development

The experience as a whole has enabled youth to understand the dynamics of climate change, traditional knowledge, scientific research, etc. through on-site workshops, mentoring, reflections via art and more. They were put in contact with more than 80 specialists in fields ranging from science (biology, climatology, oceanography, geology, geography, astronomy, etc.) to technology (handling flying drones and submarines,

"I walked on a massive glacier and the experience was greatly inspiring; however, one of the specialists presents told us that if we were to come back to the same place in one year, we would be walking on stones because this part of the glacier will have melted... This made me understand the impact decisions made by industrial countries have on northern territories and it motivated me to want to share my experience in the Arctic in my region."

-Corine Cadoret

film equipment, GIS tracking, ice and weather modeling systems), art (written, visual, spoken, cultural, traditional kayak making, etc.) to adventure (logistics and mountains, polar, submarine abysses, desert, etc. expedition tales), including entrepreneurship (business start-up, management, leadership). The youth also had the opportunity to visit a number of communities in Greenland and the Canadian Arctic.

In addition to the expedition itself, the two youth selected by the RMBMU acquired the experience of being interviewed, of attending meetings with partners, of keeping a blog, of writing a call to action and of responding to media interviews.

Strengthening Sense of Belonging and the Ambassadorial Role

The project achieved its objectives in that both youth recruits return with a cultural and scientific background which enables them to act as ambassadors in relation to climate change. A series of conferences in the region has been organized for the coming months so that they can share their experiences and educate the community about what is happening in real time in the Arctic. Their testimony demonstrates that they return with a better understanding of climate change and a stronger sense of belonging to the North. In Noah's case, the expedition further permitted him to orient his choice of studies with more motivation. While he was thinking about leaving the region in the fall for a Tremplin-DEC (orientation year) program in another region, he has, upon return, applied to the Cégep de Baie-Comeau, where he has been accepted for a technical program in land and wildlife management (Techniques d'aménagement cynégétique et halieutique).

"I was awestruck to feel at home in Inuit communities despite the distance, their isolation and the language difference. At the same time, there is something similar there to what I know, we have common challenges, a community and family life which is similar. After the expedition, I enrolled in a technical program in land and wildlife management, whereas I had no idea what I really wanted to do before the expedition."

-Noah Picard-Simon

National and International Representation

The project has earned Noah Picard-Simon an invitation from the Canadian Commission for UNESCO to attend the 9th UNESCO Youth Forum in Paris in October 2015, a major international event with the theme, "Young Global Citizens for a Sustainable Planet." Noah will be presenting a 5-minute summary video, which was filmed during the expedition, on the experience and the importance of youth in the fight against climate change. This video was produced in both languages and is available online via the following links:

English: <https://youtu.be/2iNb0anqGH0>

French: https://youtu.be/jP-Y_FcS3Ok

In preparation for this event, a national teleconference for all UNESCO associated schools and interested youth in Canada was held on September 30, 2015. The invited panelists were Mrs. Catherine Potvin, the McGill University-UNESCO Chair, youth representatives of the National Youth White Paper, as well as Corine and Noah.

Furthermore, the two youth were invited to write a call to action (APPENDIX 3) which will circulate nationally, notably in its inclusion in the *Acting on Climate Change: Contributions from an Expanded Dialogue Across Canada* publication, organized by the McGill-UNESCO Dialogues Chair for a Sustainable Future. Corine Cadoret was present at the publication launch, in Toronto, on October 8th. It is emphasized that this call to action is supported by 66 other youth from around the world who were on board the expedition.

Community of Youth “Leaders”

In addition to previously mentioned consequences, this project will develop its full potential if it continues over time. Confident in the success of its first year of partnership with Students on Ice, the RMBMU has begun researching ways to finance the opportunity for two other youths to participate in the 2016 Students on Ice expedition. Meanwhile, the Biosphere Reserves involved in NordMAB are working to create a synergy between the youth from territories recognized within the Man and the Biosphere (MAB) program and UNESCO. In the medium term, the project will facilitate training of a new generation of youth leaders, thus inspiring other youths to seize opportunities of international mobility and skills development.

PARTNER VISIBILITY +

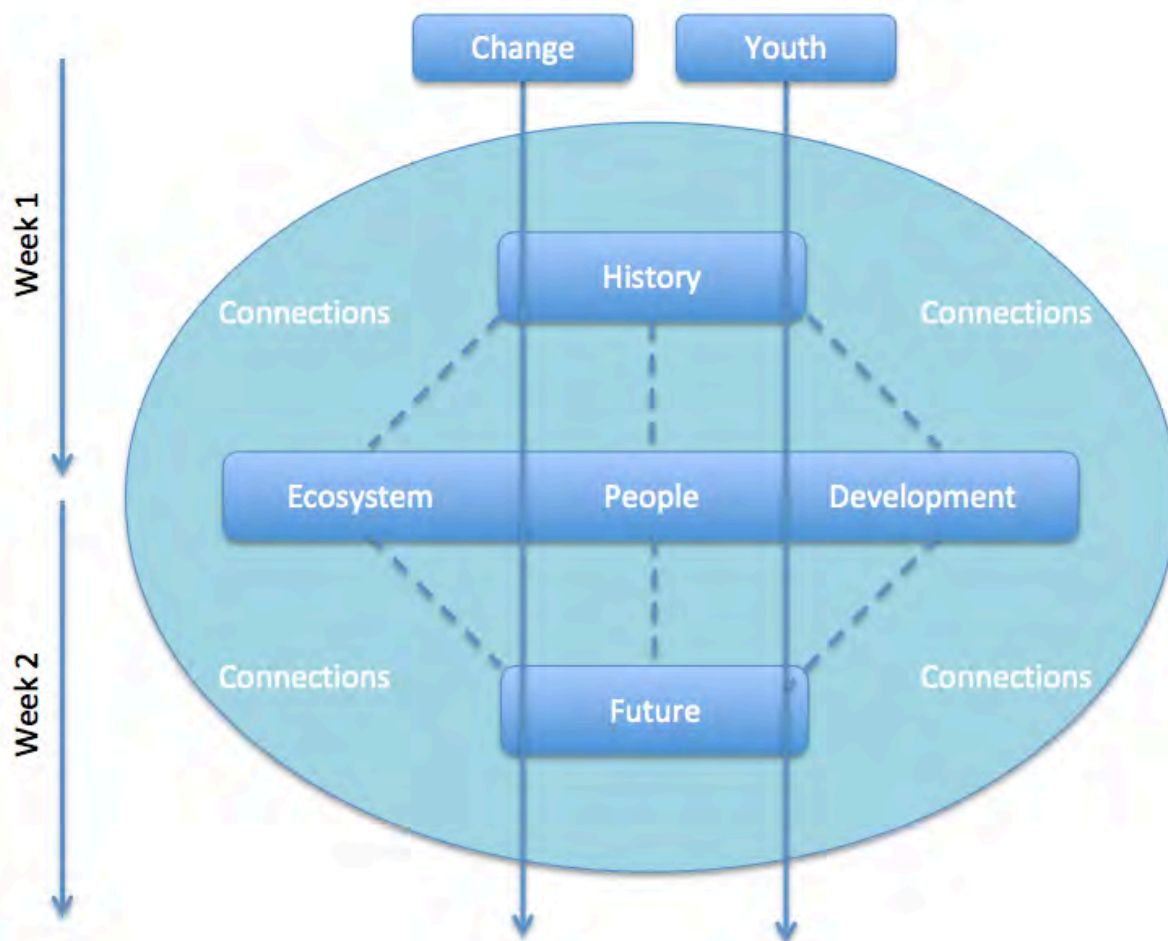
Summary of different channels of visibility offered to the Quebec Department of International Relations and the Francophonie (MRIF):

- + MRIF article with logo on the RMBMU website: <http://rmbmu.com/nordmab-on-ice>
- + Publication mentioning the MRIF – April 23: <http://rmbmu.com/deux-jeunes-selectionnees-pour-une>
- + Publication mentioning the MRIF – July 15: <http://rmbmu.com/moins-de-deux-semaines-avant-le>
- + Publication mentioning the MRIF – August 14: <http://rmbmu.com/une-experience-en-arctique-haute>
- + MRIF logo in the partners section of the website: <http://rmbmu.com/partenaires>
- + Mention of MRIF on Twitter – March 6: <https://twitter.com/RMBMU/status/573860223217238016>
- + Mention of MRIF on Twitter – August 17: <https://twitter.com/RMBMU/status/633273179092467712>
- + Mention of MRIF on Facebook – August 17: <https://www.facebook.com/RMBMU>
- + MRIF logo on the NordMAB on Ice blog: <http://www.nordmab-on-ice.com/#!apropos/cjg9>
- + MRIF logo on the NordMAB site: <http://www.nordmab.com/#!partners/cwvr>
- + MRIF logo on the Students on Ice site: <http://studentsonice.com/about-us/partners/>
- + MRIF mentioned on the application form for the expedition
- + MRIF mentioned in five Radio-Canada interviews and the local newspaper with the two youth
- + MRIF mentioned in the *Acting on Climate Change: Contributions from an Expanded Dialogue Across Canada* publications put out by the McGill-UNESCO Dialogues Chair for a Sustainable Future

ANNEXE 1 – Education concept ⁺

Overview of Themes

Three central areas of study will shape the 2015 Arctic Expedition's Education Program, including: 1) Ecosystems; 2) People; and 3) Development. These areas of study are interconnected and are thus understood and explored in relation to one another. During the first week of the expedition, we will examine these core areas from a historical perspective. As we move into week two of the expedition, the focus will shift to an exploration of these areas and related topics through a future-oriented context (i.e., where do we go from here—possibilities and opportunities). Connected to these focal areas are the two cornerstone themes of our education program—Change and Youth. As we are all well aware, the changes to/in the Arctic are influencing all dimensions of life including ecological, socio-cultural, economic, and geo-political. With Canada's chairmanship of the Arctic Council ending this spring and the United States now assuming this role, and the rapidly growing international interest in Arctic-related affairs, this is a critically important time in the Arctic. Youth need to be engaged in learning experiences that support a better understanding of a 'changing Arctic' and in turn, the opportunities and possibilities that exist (or could be imagined) for them as young global citizens. The illustration below shows the relationship(s) between the three central areas of study— Ecosystem, People, Development— and the key themes of Change and Youth.



Educational Session Formats

Informal Sharing and Connecting Opportunities

- Staff who demonstrate their openness and approachableness quickly form meaningful connections to students - they are full of questions and an eagerness to learn more about you.
- Please use the valuable time during travel, meals, on deck, on zodiacs, and on shore to simply be yourself and share who you are with our students. Making yourself available makes all the difference – to both the students and your experience on expedition.

Keynotes (40min)

- Ship-based in a lecture hall setting and delivered to the entire student and staff team
- Keynotes are 30min with 10min for Q&A from students

Life Stories (50min)

- Staff share inspiring life stories of how they got where they are today, hurdles they've overcome, and lessons learned
- Life Stories are delivered in a lecture hall setting to the entire student and staff team and are 40 min followed by a 10min Q&A

Arctic Hours (Panel Discussions) (60min)

- Arctic Hour is a chance to delve deeper into particular themes, issues, and discussions.
- 4 panel discussions are offered simultaneously with students choosing which panel they'd like to participate in. Three panelists will have the opportunity to each deliver a 15min presentation; followed by a 15min Q&A period to end the session. Each panelist will represent one of the central areas of study of the Education Program: 1) Ecosystem, 2) People, and 3) Development.

Workshops (60-90min)

- Workshops are all about hands-on, thought provoking, problem solving, small-group activities that educate, motivate, engage, and inspire. Workshops can be lab analysis, creative writing, issue-based, skill development, etc.
- Up to 8 Workshops can be offered simultaneously with students choosing which workshop they wish to participate in.
- Workshops are typically 60min but are occasionally up to 90min and can be delivered from the ship, from a zodiac, or on shore/land.

Education Stations (90min)

- An intimate and interactive way for groups of 15-30 students to rotate between three different stations spending 25min at each station. Each station focuses on a particular group of perspectives, issues or themes and is made up of a panel of 5 staff – each staff conversing with students ‘off the cuff’ for 5min.
- This activity serves to deliver introductory content to the entire student body, utilize a higher number of staff, and allow students to move around the ship. The goal is to ‘whet their appetite’ and act as a catalyst, prompting deeper discussion in other educational sessions.

Pod Groups

- Students will be divided into Pod Groups of approx. 12 students, each with 2 staff leaders, and are named after the phonetic alphabet. Pods quickly become part of our daily structure and bring fun and energy to our group management logistics.
- Pods will be regularly (and randomly) paired with another pod to increase peer mixing and serve as an intimate group size for educational sessions/activities

Connection Circles (60min)

- Whenever possible, students are given the opportunity to be involved in quiet, slower-paced, reflective activities. Connection circles are a chance to slow down, process, and connect to others through discussion and help build an interconnected, collective experience.
- Students lead the discussion by sharing their thoughts on the day’s events, their burning questions, and ideas for change.

FUN!

- The greatest way to educate is to connect – and sharing who you are and your interests is a GREAT way to get the connections started!
- We encourage education staff to embrace their hobbies/interests whenever possible
 - Have a unique musical instrument? Bring it along and showcase your talent!
 - Practicing Yogi? Run a yoga/meditation session each morning or evening!
 - Know how to juggle? Teach us after meals!
- You know YOU best, and we want to know everything you have to offer. That’s how we build the education program and its success depends on YOU!

ANNEXE 2 – Educational program ⁺

M E N U - K E Y N O T E S

Staff Name	Format	Title	Summary
Alexandre Shestakov	Keynote	Arctic Council (w. Mary S)	
Daniele Bianchi	Keynote	Climate change and the Ocean	An overview of the causes of climate change and its effects on the oceans and its inhabitants: warming of surface and deep waters, sea level rise, ocean acidification and development of oxygen-depleted 'dead zones'.
David Gray	Keynote	Arctic Mammals ("Mammal-Watching: Stories from an Ethologist Notebook")	This presentation is on the behavior of land mammals, but could include marine mammals if desired. Topics include: the Polar Bear as a land mammal; the endangered Peary caribou; Muskox behavior (role of solitary bulls, defense formation, predation, conservation); Arctic hare (breeding and social behavior); Arctic Wolves (pups and the pack). Focus will be on the Arctic winter and survival.
Don Marrin	Keynote	What You Didn't Know About Parks Canada in the North	Starting from the establishment of Canada's first national park in 1885, jump forward to 1970 where there was one national park in Canada's northern territories. Learn about Parks Canada's current administration of 13 national parks and 7 national historic sites in Canada's three northern territories, and the instrumental involvement of Aboriginal groups in establishing and cooperatively managing these parks. Finally, get a teaser of fun facts about Sirmilik National Park, which you will be visiting during this expedition.
Don Walsh	Keynote	Hot Times in a Cold Place	This is a review of the current status of politics conflicts associated international competition in the Arctic. Key to understanding the subject are the actions of the six coastal nations that border the Arctic Ocean.
Don Walsh	Keynote	The Arctic Ocean - An introduction the the Smallest Ocean	This lecture will describe the geography and oceanography of this ocean. It will also include some history of its discovery and subsequent exploration.
Eric Mattson	Keynote	Glaciers and Their Health	An examination into the field of glaciology. Topics covered include: why glaciers are important, where do glaciers form, how are glaciers created, how do they move and how do they respond to changes in climate.
Fred Roots	Keynote	Geology of the Arctic	
Garry Donaldson	Keynote	Tales of Arctic Birds	While inherently cool, birds can tell us much about the world around us; the Arctic is no exception. From some the first measurable impacts of climate change in Arctic oceans to the impacts pollution from far away countries is having on Arctic animals, birds are telling us we'd better start listening to them.
James Raffan	Keynote	The Arch of Experience - Expeditionary Learning	This is a presentation all about how to make the most of learning on an expedition. It touches on expeditionary learning history and theory but really focusses on the steps involved in creating powerful personal knowledge from expedition experience. The talk also focusses on different ways of knowing and different paths to learning reflected in the expedition group.
James Raffan	Keynote	Circling the Midnight Sun	This is a presentation about the peoples of the circumpolar world based on my book of the same name, which tells the story of a four year journey around the world at the Arctic Circle.
Mary Simon	Keynote	Meeting the Needs of our Challenges and Opportunities	Education, Opportunity, Strategies
Mary Simon	Keynote	Arctic Council (w. Alexandre S)	
Mike Wong	Keynote	National Parks of Canada	Presentation on the establishment and management of Canada's National Parks, including Parks Canada's systems plan, the benefits (conservation, education, and visitor experience) of national parks, the ecological monitoring and reporting on the state of health of the parks, and examples of the challenges of managing national parks in 2015.

Pascal Lee	Keynote	MARS ON EARTH: The Earth's Polar Regions and Mars Exploration	The Earth's Polar Regions are helping us understand the Cold World that is Mars, the possibility of alien life and ecosystems there, and how people will explore and perhaps develop the Red Planet in the future.
Pete Kikkert	Keynote	The Quest for the Northwest Passage	The search for a Northwest Passage lured explorers into the Arctic for centuries. This keynote will examine the efforts of various explorers to find and navigate the Passage - from Martin Frobisher in 1576 to Roald Amundsen's successful transit in 1903-1906. This is a history of heroism and incredible achievements, as well as crippling arrogance and ineptitude.
Pete Kikkert	Keynote	The Lost Colonies: The Norse and the North American Arctic	After thriving for almost 500 years, the Norse settlements on Greenland collapsed in the second half of the 15th century. This keynote will explore the history of Norse exploration in the Arctic (including their forays into the mysterious Vinland), the evolution of the colonies on Greenland, and the various theories scholars have developed to explain their demise (including climate change).
Rosemarie Keough	Keynote	Tribute to Greenland	Keough photos from numerous Greenland voyages choreographed to the original music of Greenland's Rasmus Lyberth, sung in Greenlandic. (5 min intro, 15min slideshow, 10min discussion)
Whit Fraser	Keynote	A Partnership for a new reconciled Canada (people, history and future)	No one can measure the depth of the scars and pain of the residential school experience in Canada. A new partnership, with remarkable Canadians from all walks is trying to forge a new partnership among Aboriginal peoples and all Canadians that will unlock Canada's great potential by working together, Aboriginal and Non Aboriginal, towards true reconciliation.
Mr. Fady Muhammed Ibrahim	Keynote		

M E N U - A R C T I C H O U R S

ARCTIC HOUR	PANEL TITLE	MODERATOR	PERSPECTIVE	STAFF NAME	PRESENTATION TITLE	SUMMARY
#1 "Ice"	1- Climate Change & Impacts	JP Messier	Ecosystem	Daniele B	Climate change and the Arctic	An overview climate change impacts on the Arctic and its inhabitants: surface water warming, sea-ice decline, melting of the polar caps, changes in the range of species. What we expect will happens, what we can do for it.
			People	Caitlyn B	Climate Change & People of the Arctic	TBD
			Development	Joanna D	The UN Climate Conference in Paris	Focus specifically on international climate meeting in Paris and the legal and policy features of agreement, and Canada's historical role in the process. What is at stake, and what it means for the Arctic.
	2 - Arctic Life Support	JR	Ecosystem	Garry D	Life Linked to Ice	Most life in the Arctic is tied to the marine environment which is now under dramatic change as temperatures warm and the extent and thickness of sea ice is deminishing. Based on an Arctic Council report, this talk encourages discussion on what can be done for biodiversity in the north and the people that rely upon it.
			People	Mary S	Inuit & Ice	The relationship between Inuit and Ice - past, present, and future.
			Development	Trevor T	The Role of Sea Ice to the Davis Strait & Baffin Bay Fisheries	A historical perspective on fisheries in this part of the world, how they factor in larger geopolitical spheres, how they develop and the prognosis for the future with options.
	3 - Challenges in Exploration	Whit F	Ecosystem	Don W	A History of Discovery & Exploration	TBD
			People	Sarah McNL	Challenges of Ice Travel	TBD
			Development	Pete K	A Short History of Arctic Oil and Gas	Oil and gas have been major drivers of development and change across the circumpolar world for the last hundred years. Explore the history of oil and gas exploration and development in the Arctic, and speculate on the impact that the current 'oil rush' might have on the Arctic. (Focus on Russia and Canada)
#2 "Culture"	1 - Opportunities and Challenges	JR	Ecosystem	Alexandre S	Developing A Pan-Arctic Vision for the Future	TBD
			People	Robert C	Youth Leadership, Challenges, and Opportunities	TBD
			Development	Eric McNL	Examples of Positives Change in Iqaluit	TBD
	2 - Arctic Sovereignty	Anguti J	Ecosystem	Don W	Hot Times In A Cold Place	This is a review of the current status of politics conflicts associated international competition in the Arctic. Key to understanding the subject are the actions of the six coastal nations that border the Arctic Ocean.
			People	Caitlyn B	Who Owns the North?	A discussion about "who owns the north" & the politics & geographies around that.
			Development	Pete K	Understanding Sovereignty in the Circumpolar World	State officials have always struggled to determine the definition and function of sovereignty in the unique legal space of the polar regions. This keynote will explain how states have attempted to unravel the "Gordian knot" of polar sovereignty over the last two hundred years. (Will incorporate the histories of Resolute/Devon, which are closely tied to Canada's historic sovereignty strategy).
	3 - Healthy Communities	Mary S	Ecosystem	David G	Significance of Biodiversity to Northern Peoples	TBD
			People	Whit F	Social Indicators & Why Are the Inuit So Low?	TBD
			Development	Genevieve K	Understanding Our Needs for Health & Education	Include moving from a traditional way of life to a wage economy which equals education and jobs.

M E N U - A R C T I C H O U R S

ARCTIC HOUR	PANEL TITLE	MODERATOR	PERSPECTIVE	STAFF NAME	PRESENTATION TITLE	SUMMARY
#3 "NW Passage"	1 - Climate Change & The Northwest Passage	Mike W	Ecosystem	Fred R	Observations, Science, and Experiences in the NW Passage	TBD
			People	Anguti J	What Changes are Being Observed by the People of the North?	Discuss the Inuit perspective on changes and future uses of the NW Passage
			Development	Joanna D	Advocacy for the Planet	Two elements: Element 1: Overview of policy & science. In particular, I will review high-level concepts related to resources & security in Arctic region, intl climate policy, & overview of IPCC. Element 2: What policies exist to address climate change?including legal & political frameworks for safeguarding the planet, & what opportunities exist to positively contribute to policy efforts.
	2 - How to Manage a Maritime Highway	JR	Ecosystem	Don W	Arctic Ocean As A Maritime Highway	TBD
			People	David G	Maritime Highway & the People of the North	TBD
			Development	Trevor T	Marine Protection in the Arctic	A discussion on Marine Protection in the face of decreased ice cover and increased shipping in the Arctic. Is there a way to capture the sometimes seemingly opposing mantras of development and protection. Can use be sustainable, can protection go hand in hand with development, is it yes in some places and no in others?
	3 - Further Opening the Industrial Door	Whit F	Ecosystem	Alexandre S	The Hot Issues & Impacts that the top ENGO's Are Watching Today	TBD
			People	Mary S	How Do We Maximize Benefit to Needed Programs & Services?	TBD
			Development	Pete K	Lessons Learned from a History of Development	The megaprojects planned for the Canadian Arctic in the 1970s and 1980s received massive amounts of government funding, faced fewer environmental requirements, and were conceived amidst major global oil and gas shortages, yet they still failed. This talk will identify the lessons these failures provide, and touch on how history can inform current discussions about northern development.
#4 "National Parks & Connecting to Nature"	1 - A Natural Education	Mary S	Ecosystem	JR	What Nature Has Taught Me	TBD
			People	Caitlyn B	Inuit & Education	Blending traditional and modern learning systems for success
			Development	Diz G	Exciting Trends/Successes in EE and its Future	TBD
	2 - Conserving Our Wild Areas	Garry D	Ecosystem	Fred R	Science & Conservation is Essential	TBD
			People	Anguti J	What Parks Represent to The Inuit	TBD
			Development	Mike Wong	Climate Change Adaptation & the Role of Protected Areas	The positive and negatives changes attributable to climate change are becoming more obvious. Protected areas can play a role in helping our sensitive ecosystems to adapt to this global influence.
	3 - Evolution of National Parks	Lucie M	Ecosystem	David G	What Does a Healthy Park & Ecosystem Look Like?	TBD
			People	PC Youth Delegate	How Youth Perceive the Relevance & Importance of National Parks	TBD
			Development	Don M	The Story of the Franklin Expedition & Parks Canada	Learn the story of the ill-fated Franklin expedition, the subsequent efforts to find out its fate, and the recent Parks Canada-led discovery of HMS Erebus and the continuing search for HMS Terror.

M E N U - A R C T I C H O U R S

ARCTIC HOUR	PANEL TITLE	MODERATOR	PERSPECTIVE	STAFF NAME	PRESENTATION TITLE	SUMMARY
#5 "Importance of Arctic Biodiversity"	1 - Dynamics of the Arctic Environment & its Global Connections	Daniele B	Ecosystem	Paul S	Botanical Exploration of the Arctic	I will present an overview of historical and present day botanical exploration across Canada, showing students how plant collecting, traditional knowledge, and modern technology intersect in building a complete picture of biodiversity in the rapidly changing north.
			People	Pascal L	ONE EARTH - Why We're Likely Alone and Should Think And Act As One.	Polar regions show us that microbial life can thrive even in extreme environments. This and other evidence suggest that microbial life might be common in the Universe. Intelligent Life, however, might be exceedingly rare. The rarity of Earth as an ecosystem supporting intelligent life means people have a great responsibility to think globally and develop the planet wisely.
			Development	Bianca P	Changing Arctic Environments	How the arctic is changing from climate change - temperatures, glaciers, ecosystems
	2 - Changes throughout the Past, Present, and Future	David G	Ecosystem	Kieran S	400 Million Years of Arctic Life & Climate	The climate and geography of the Arctic is constantly changing over time. A 400 million year old fossil record shows that the Arctic was much warmer for long periods of the past. Partly due to continental drift and higher CO2 levels, creatures such as dinosaurs, hippo like beasts, camels, and mammoths roamed the Arctic.
			People	Mary S	An Inuit Perspective on Biodiversity Loss	TBD
			Development	JP Messier	Biosphere Reserves World Network & NordMAB	History, aims and achievements of BR throughout the world network Challenges to come (what are we working on) Concrete examples (From Manicouagan's BR) Nordic Cooperation (who's in, what are we doing, link with SOI)
	3 - Conserving & Preserving	JR	Ecosystem	Garry D	Polar Bear - Their Conservation Is About People Management	Polar Bears are the poster child for the Arctic and for climate change; in these two roles they have engendered attention from a diversity of groups ranging from governments to conservation organizations to corporations. Polar Bears are also critically important to Inuit who are faced with managing their traditional relationship with bears with the often conflicting values of the others.
			People	Caitlyn B	Conservation is Part of Inuit Identity	TBD
			Development	Joanna D	Protection Requires Policy - Let's Get Involved	TBD
	#6 "Youth"	1 - TBD	TBD	Ecosystem	Diz G	Youth, Action, Change
People				Robert C	TBD	TBD
Development				Sarah H	TBD	TBD
2 - TBD		TBD	Ecosystem	Patrick C	TBD	TBD
			People	Caitlyn B	Youth Action	How to get started in changing the world for the better. Owning your flaws, running on your talents.
			Development	Joanna D	TBD	TBD
3 - TBD		TBD	Ecosystem	Trevor T	TBD	TBD
			People	Agneta K	Greenlands Evolution and Innovation	The picture of the new generation of dynamic youth with new ideas and dreams for the future. Innovation in Greenland, what kind of solutions we need for the future. Education in Greenland. Statistic of youth.
			Development	Dominique P	TBD	TBD

M E N U - W O R K S H O P S

Staff Name	Format	Title	Summary
Agneta Krosgaard	Workshop	Greenlandic games/ drums	Greenlandic games, drum dancing, show.
Ailsa Barry	Workshop	Digital storytelling	Developing ability to tell stories to illustrate resilience, differing perspectives, challenges that have been faced, decision making, transformation and change. Using pictures, photos, film etc.
Annie Petaulassie	Workshop	teaching traditional sewing	how to make embroidery and beaded small wall hangings with frames, sealskin okpiks, leather small kamiks, sealskin hair clip and brooch, little stuffed doll in western arctic style. This time I will teach how to make sealskin juggling balls and okpiks. Option they can make little doll amauti (woman's clothing for carrying baby)
Bianca Perren	Workshop	Blockprinting	This is an ideal sea day, travelling workshop, where students learn how to make block prints either from the landscape around them, memory, naturalist guides, etc. Needs a large open space, time, and is kind of messy.
Bianca Perren	Workshop	Watercolour painting/sketching	This would be an outdoor sketching, painting workshop, a visual diary/journal sort of thing, with instruction for those who want it. (This can happen anywhere, but ideally when we are near somewhere beautiful :)
Bianca Perren	Workshop	Reconstructing past Arctic environments	We will take a corer out on a lake/pond, retrieve a sediment core, sample it as we would on a scientific expedition, and look at the contents and how they can tell us about how the environment has changed. This would be 2 parts, ideally: one long one on shore, at a pond, and a shorter one in the ship.
Daniele Bianchi	Workshop	Life in an Arctic pond	Similar as workshop sampling the Arctic Ocean, but we sample life from an arctic pond instead.
Daniele Bianchi	Workshop	Analyzing Phytoplankton and Zooplankton samples	A workshop where we study phytoplankton and zooplankton samples from the arctic waters and from the arctic ponds. Onboard we set up fish tanks to observe phytoplankton and zooplankton characteristics and behavior. We also use the compound and dissecting microscopes to observe unicellular and larger organisms.
Daniele Bianchi	Workshop	Marine biology field work - Sampling the plankton of the Arctic	On the zodiac, we do multiple tows of surface waters with the large zooplankton net, and we observe, discuss and collect zooplankton and phytoplankton samples that we bring to the Lab. We can also take water measurements (temperature, salinity) and we keep water samples in case we need to analyze nutrients (in the Lab Workshop).
David Gray	Workshop	"Arctic Shadows:" A Film Showing and Discussion	This workshop includes viewing a 20-minute portion of the IPY film about biologist, Dr. R. M. Anderson, who was official Naturalist on the 1928 Canadian Eastern Arctic Patrol. To determine the range and abundance of Arctic mammals, Anderson collected information from local Inuit, the traders and RCMP at places we are visiting, including Greenland, Pond Inlet and Bylot Island.
David Gray	Workshop	Skin & Bones: Where Nature and Culture Meet	Hands-on Workshop with specimens of birds and mammals: Identifying skulls and teeth, and the anatomy of bones. Examples of traditional use of the skin, fur and feathers of birds and mammals for clothing, tools, games and art.
Dominique Potvin	Workshop	Do They See the elephant? Do We See the Arctic?	Participants will be invited to explore the concept of perspectives based on the 'Five Men and an Elephant' story. The value of communication, interdisciplinarity, seeing the bigger picture, and considering the viewpoints of others will be discussed. There reflections will be transposed to the Arctic context, and will aim to identify some of key perspectives influencing the region.
Don Marrin	Workshop	Cooperative Games	Combative Games are deeply rooted in many cultures throughout the world and have existed for over 3,000 years. Participate in a series of safe, easy-to-learn and fun challenges between two or more contestants that will test balance, agility or cunning abilities. Also participate in a series of cooperative games with a partner or within a larger group, where you will only be successful by working together. Examples of challenges include: breakout, tug-of-you, and bulldozer. This is an interactive and hands-on session for a maximum group size of 16.

Donna Johnson	Workshop	Expedition Check-In	I can be available throughout the expedition to meet with students who who feel like checking in and exploring where they and their peers are at. I am wondering if it is possible to schedule these meetings at a time when they don't compete with other scientific/content-laden workshops. Right before breakfast or dinner? In the period before curfew?
Eric Mattson	Workshop	Snow Pit Analysis	How to dig a snow pit and determine the water equivalent and avalanche potential
Eric Mattson	Workshop	Bottle Drop	15 min. introduction to the Drift Bottle Project followed by 1.5 hr bottle preparation session. All students involved.
Eric Mattson	Workshop	Landscape Analysis	How to interpret the physical landscape and understand the natural processes which shaped it.
Eric Mattson	Workshop	Glacier Tour	Hike to (and perhaps onto) a glacier to learn how glaciers function. Topic include: glacier formation, ice features, mass balance, flow, erosional processes/landforms, debris transport, and depositional processes/landforms.
Eric McNair-Landry	Workshop	Q is for Qajaq (w. Sarah McNL, Erik B, Kate B)	Building, instructing, and kayaking
Erik Boomer	Workshop	Intro to paddling/Kayak Rolling (w. Sarah McNL)	Utilizing the ship's pool, lake or ocean we will start with the basics how to enter and exit a kayak. Next we will learn a few strokes and begin the process of learning to roll the kayak upside down and back up.
Ethan Larmand	Workshop	Mental Health/Managing anxiety/ Mindfulness	Explore basic concepts of mental health, ex. managing anxiety and stress. Go over strategies to reduced anxiety and stress. Practice relaxation exercises. Discuss mindfulness based stress reduction. Talk about how it feels being so far away from home, friends and family.
Ethan Larmand	Workshop	Open Ended/General Discussion for feedback	A time for general feedback; comments, questions and concerns. What have you enjoyed so far? How is everybody processing the experience so far? Will be responsive to whatever the youth want to discuss or to find out if any of the youth need something. To be their advocate and help the students cope with interpersonal dynamics.
Ethan Larmand	Workshop	Journal Writing/Personal Reflection	Explain the importance of journaling and why it's important on a trip like this. The youth do some reflective journal writing and some group discussion. What have you learned so far? Why is what you have learned important and how will you carry this new knowledge forward into your futures?
Fred Roots	Workshop	TBD	
Garry Donaldson	Workshop	Tales of Arctic Birds	While inherently cool, birds can tell us much about the world around us; the Arctic is no exception. From some the first measurable impacts of climate change in Arctic oceans to the impacts pollution from far away countries is having on Arctic animals, birds are telling us we'd better start listening to them.
Garry Donaldson	Workshop	Arctic Birding	In this workshop we'll explore Arctic birds: why are they here, where are they found, what kinds do we see, why birding is attractive to some.
Garry Donaldson	Workshop	Monitoring wildlife	Hands-on workshop on monitoring techniques used to survey for birds and mammals at sea. Information collected will be entered in the Environment Canada Seabird at Sea database.
Garry Donaldson	Workshop	Life Linked to Ice (Workshop)	This workshop will explore the structure of the Arctic marine food web, the relationships among its components and what is happening as ice begins to thin in a warmer climate. The workshop will explore the structure of the marine system, effects of climate change and will encourage discussion based on recommendations from the Arctic Council report of the same name.
Genevieve Killulark	Workshop	Mental Health Matters	Discuss mental health + illness This workshop is really dependent on the group participants; one year it was about suicide prevention, the next year it was about mental health promotion
Grant Redvers	Workshop	Introduction to maritime navigation	Learn the basics of getting from A to B at 'C' :) This workshop could cover an intro to; 1. locating your position at sea, using both modern electronics (GPS, radar, electronic charts) AND old school compass and sextant. 2. Plotting and following a course from your position to your destination, 3. unique aspects of navigating in Polar waters.
Grant Redvers	Workshop	Arctic Tern Film	90min, very interesting option

Grant Redvers	Workshop	Big science on small boats	From Antarctica to an ice-bound yacht in the Central Arctic Ocean. This presentation could be part "life story" and part "science story". By recounting my personal journey from a life onshore to the life of a polar sailor, I can share stories from the past 15-20 years supporting various science, natural history and adventure projects at both Poles.
Jaime Koebel	Workshop	Fish Scale Art	Through creating fish scale artworks, participants will learn about Métis culture with teachings and storytelling.
Jaime Koebel	Workshop	Metis Jigging	Experience the philosophy of "Nehiyaw" which means four parts (Physical, Mental, Emotional and Spiritual) through Meétis cultural dance.
Jaime Koebel	Workshop	Métis Beadwork & Mapping	Participants will learn about traditional Métis beadwork mapping through drawing their own maps based on beadwork and plant teachings.
Jaime Koebel	Workshop	Métis Beadwork	Learning about the Métis through traditional beadwork.
Jaime Koebel	Workshop	Messages: Virtual Tour of Indigenous Art	Exploring the messages of Indigenous Traditional and Contemporary art and understanding the social, political and cultural issues Indigenous art tells us.
James Raffan	Workshop	Life/Career Mapping 101	This is a fun and interactive activity that involves making 5 or 10-year plans to map out goals and directions in an individual's life
James Raffan	Workshop	Writing in the Field (Writing expressed on paper or in song)	This is a hands on workshop in documenting experience in journals, in songs, in poetry and other forms. The workshop can happen anywhere and can be done sequentially or regularly during the expedition.
Jean Francois Carrey	Workshop	Stand up paddle board. SUP	how to SUP, how to start, strokes, how to fish from a SUP
Jessica Park	Workshop	Lancaster Sound- raise your voice with WWF!	Students will be asked to record messages (video, written, photographs) about Lancaster Sound. Messages will be included in an interactive web-based map of Lancaster Sound being developed by WWF-Canada as part of WWF's efforts to encourage the designation of this place as a National Marine Conservation Area.
Joanna Dafoe	Workshop	International Climate Policy Part II	Did you attend keynote on advocacy for the planet? Are you motivated to roll up your sleeves? Join this workshop for 3-part overview of (1) exciting activities happening internationally & in Canada (2) how you can get involved in meaningful & high-impact policy work and (3) workshop together how these activities and student interests/passions interact into "theory of change.?"
Joanna Dafoe	Workshop	Guided Meditation and Solo Sit	We start with a 20-minute mindfulness and grounding meditation. The students will then be assigned to locations where they can solo sit to use these tools (e.g., the students can all be in my field of vision but positioned so as not to see one another). We later return to the team circle to debrief.
Jolly Atagoyuk	Workshop	Inuit Art - Printmaking	
Joseph Singleton	Workshop	Flying an ROV	The students will have an opportunity to fly a small ROV (Remote Operated Underwater Vehicle). With its build in camera the students will be able to explore the ocean beneath its surface.
Joseph Singleton	Workshop	ROV Design Competition	Student (preferably in groups of 2) will be given the materials/tools needed to build a small ROV (Remote Operated Vehicle). Upon completion they will be able to fly their ROV in the pool to complete a mission.
Joseph Singleton	Workshop	Oceanographic Data Analysis	Upload the data from the CTD deployment (from previous workshop) View data in a graphical format Compare the data with other CTD data from other regions and times of the year. During this workshop we will use the opportunity to discuss the purpose of the CTD data, as well as other types of oceanographic data.
Joseph Singleton	Workshop	Oceanographic Instrumentation Deployment	Prepare a CTD (conductivity, temperature, depth) probe for a data logging deployment. Deploy and recover the probe from a zodiac. During this workshop we will use the opportunity to discuss the purpose of the CTD probe, as well as other types of oceanographic instruments and the data they collect. (A subsequent workshop will be required to analyze the data.)
Joseph Singleton	Workshop	Autonomous Systems Used for Oceanographic Observation	This presentation is is about some of the various autonomous systems (glider, profilers, etc.) used for oceanographic observation. The presentation is from more of an engineering perspective (the design principles of how they work). It will also discuss the challenges of autonomous observations in the polar regions.

Kelly Khan	Workshop	Citizen Journalism & Global Perspective	Traditionally, textbooks were the vehicle for delivering popular perspective. Citizen journalism is becoming the trend for breaking news. It's important to understand how individual voices shape a story. You have a voice that contributes to an emerging theme. Even if you disagree with a voice, it's important to understand perspective behind that voice. The collective voice tells the whole story.
Kieran Shepherd	Workshop	Prospecting for Fossils	The Arctic is still largely unexplored and offers the potential for such fantastic fossil finds. Those few who have been lucky enough to explore this vast land have been rewarded by some of the most significant discoveries in the field palaeontology. You will learn the fundamentals of prospecting of fossils and together, we may be rewarded by a fossil discovery.
Laura Lucier	Workshop	Mission Control Attitudes for the Arctic	NASA Flight Controllers are trained to practice discipline, competence, responsibility, toughness, teamwork and vigilance. We'll talk about some examples of why these are important traits when working in Mission Control, and talk about how we can apply these in our everyday lives and as stewards of the Arctic and planet Earth.
Laura Lucier	Workshop	Critical Thinking at a Critical Time	NASA Flight Controllers have to make tough decisions, often under time-pressure and sometimes having life-or-death consequences. We learn how to gather information, confirm what's going on and use critical thinking skills to assess the situation. This workshop will teach you to think like a Flight Controller, a skill you can apply to any decision you're making.
Linda Lang	Workshop	Painting en plein aire	Students take paint boxes ashore and we paint the Arctic land that surrounds us
Linda Lang	Workshop	Arctic Mural	Students can work together to create a mural of their Arctic experiences
Linda Lang	Workshop	Climate Change Art	Using powerpoint presentation, show how artists (including myself) have illustrated the changes in the polar regions. Discuss which ways are more effective and how students might do the same thing.
Mary Simon	Workshop	People & Place	
Michael Jensen	Workshop	The Arctic Sky	Introduction to Night Sky, with focus on Arctic/polar regions. Demonstrate seasonal tilt of Earth and 24-hour daylight/darkness. Demonstrate Western (Greek) and Inuit constellations. Introduction to Northern Lights. Why do they happen, how/where/when can they be viewed? Includes references to Inuit mythology. Also includes hands-on activity demonstrating magnetic fields using an Earth model.
Michael Jensen	Workshop	Glacier Goo!	Students will make a non-Newtonian fluid known as Gak or Flubber and use it to demonstrate the motion of glaciers down a simulated glacial valley. Student teams will be encouraged to measure one particular variable and how it affects velocity. While the experiments are taking place, a brief overview of glacial movement will be conducted with esteemed glaciologist Eric Mattson.
Michael Wymant	Workshop	Climate Reality update	Mike is a Climate Reality Leader, one of over 6,000 dedicated volunteers in 100 countries around the globe who has been personally trained by former Vice President and Nobel Laureate Al Gore to educate the public about climate change.
Mike Wong	Workshop	Inspiring a New Generation to Connect with Nature	As the world population become more urbanized, more attached to technology, and further disconnected from the natural environment, the support for the conservation of native wildlife and protected areas will be in doubt. How can we reverse this trend and build a new constituency of stewards and leaders of the future? All new ideas will be welcome at the workshop.
Mr. Fardy Muhammed Ibrahim	Workshop	TBD	
Pascal Lee	Workshop	Arctic Geology, Geomorphology, Glaciology, and Paleontology	How does Geology work and what's Special about the Arctic? What do rocks and fossils tell us about past environments and ecosystems? How did Greenland and arctic Canada evolve through time? How do ice and wind shape landscapes? What does that tell us about Mars and other icy worlds (like Saturn's moon Titan)? How to find a good rock sample?

Patrick Crawford	Workshop	Drone and Robotic Technology	Robots -- especially flying drones -- are unlocking capability across the spectrum of humanity, from delivering life-saving medicine to isolated villages, to optimizing farming techniques, and to monitoring forests and glaciers. Strengths, weaknesses, applications and opportunities of this technology will be discussed. We will look at the technology in depth and operate the machine in the air.
Patrick Crawford	Workshop	Unmanned Aerial Robots -- Drones	Flying robots -- drones -- are unlocking capability across the spectrum of humanity, from delivering life-saving medicine to isolated villages, to optimizing farming techniques, and to monitoring forests and glaciers. Strengths, weaknesses, applications and opportunities of this technology will be discussed.
Patrick Crawford	Workshop	The Startup World	Starting a company -- being an entrepreneur -- is an increasingly popular career path. We will discuss the startup landscape, from raising capital to building a team, to the basics of building a strong business model. We'll talk about trends, technology and realities of turning ideas into reality.
Paul Sokoloff	Workshop	Plant pressing and collection preparation	Students will be introduced to the art and science of preparing plant specimens for a herbarium. Students will assist in preparing plant, moss, lichen and algae specimens for the Canadian Museum of Nature, and will get to prepare their own miniature herbarium specimens to take home.
Paul Sokoloff	Workshop	Field Botany	Students will be introduced to the vascular plants, algae, mosses and lichens of the Arctic through shore-based hikes. Habitat-based discovery of myriad plant species will introduce students to the astonishing diversity of Arctic life and ecosystems, and will involve group discussions, self-directed exploration, and an introduction to field collecting
Paul Sokoloff	Workshop	A Botanist on "Mars"	Last November, Paul served as a crew member at the Mars Desert Research Station in southern Utah. This outpost serves as an analog to the conditions that would be encountered by an actual manned Martian mission, and is a counterpart to another on Devon Island. During this talk Paul will answer the question ?What's a botanist doing on Mars anyway??
Pete Kikkert	Workshop	Unlocking the Mysteries of the Franklin Expedition	In 1845, John Franklin and his 128-man party disappeared into the waters of Lancaster Sound. In this workshop, students will explore the history of the Franklin Expedition. Working in groups and using primary sources, Inuit oral histories and archaeological data, students will develop their own theories to explain what happened to Franklin and his men.
Pete Kikkert	Workshop	The Idea of North	The far north has spurred on the imagination of artists and poets, politicians and entrepreneurs, explorers and adventurers for centuries. In this workshop, students will compare the different 'ideas of North' articulated by a wide variety of southerners with how northerners have described their homeland. Students will end the workshop by creating and sharing their own 'idea of North.'
Rosemarie Keough	Workshop	Photography Workshop	Series of workshops tailored to the interest expressed by students. While at sea, this can be PowerPoint presentations followed by working together hands-on from the ship's outer decks to create photos using techniques and tips shared during presentations. Workshops can be as generic as "Seeing the Light" ranging to "Beyond the Basics" a discussion of white balance and exposure etc.
Rosemarie Keough	Workshop	Photography Workshop	Rub shoulders with Pat and Rosemarie and look through their cameras while ashore. Work together with these two professionals and become more aware of what constitutes a great photo, and also how to technically improve your own picture taking.
Rosemarie Keough	Workshop	The Art of Photography - Composition	Regardless of what sort of camera you brought and regardless of your current interest in photography, familiarity with the tried and true "rules"of composition will increase your ability to create pleasing, well-balanced images.
Sarah Harmer	Workshop	Song & Music Workshop	
Sarah McNair-Landry	Workshop	Q is for Qyak (w. Erik B, Kate B, Eric, McNL)	Building, instructing, and kayaking
Sarah McNair-Landry	Workshop	Expedition film and photographer	How to tell a story through pictures and video.
Sarah McNair-Landry	Workshop	North West Passage Expedition (w. Erik B)	Eric and Sarah's expedition through the Northwest Passage via kite ski, and their encounters with a polar bear.

Scott Mcdougall	Workshop	TBD	
Tarek Sherif	Workshop	Starting and growing a business	How to think about starting a business. Managing a business through its early and growth phases.
Trevor Taylor	Workshop	Sea Ice Observation in Eclipse Sound	An overview of the Oceans North/QIA/UQAR project to remotely observe the changing ice dynamics of the floe edge area of Eclipse Sound. Two remote cameras were deployed in mid-May to hill-tops at Guy's Bight and Eric Harbour to conduct time -lapse photography every 1/2 hour until retrieved in August/September. We could do a site visit and retrieve one with a workshop.
Trevor Taylor	Workshop	Marine Protected Areas	A presentation on the status of marine protection in Davis Strait/baffin Bay, how it is similar and how it differs from other parts of the Northwest Atlantic, the Canadian Arctic and globally.
Whit Fraser	Workshop	More Than A Pipeline	How a BC supreme court Judge resolved seemingly irreconcilable differences, between multinational oil companies, the Government of Canada and northern Aboriginal peoples through the Mackenzie Valley Pipeline Inquiry. Whit Fraser covered the inquiry with a remarkable team of aboriginal broadcasters. In the end Tom Berger's recommendations were more about what kind of North we have today than a pipeline.

M E N U - L I F E S T O R I E S

Staff Name	Format	Title	Summary
Agneta Krogsgaard	Life Story	Made in Greenland	About me, my parents, family. My heritage from the Greenlandic history, society, social. etc. What kind of modern Greenland problems have and also where I stand. Where is Greenland moving? (Past, now, future)
Don Walsh	Life Story	A Sailor's Story, An Unauthorized Autobiography - What's Around the Next Corner?	83 years of diverse adventures... First went to sea in 1951 and am still doing it.
Eric McNair-Landry	Life Story	Expedition Q (w. Kate B, Sarah McNL, Erik B)	stories of their Expedition across Baffin Island and the traditional qajaq that inspired it.
Fred Roots	Life Story	From Pole to Pole over 60 Years	
Jaime Koebel	Life Story	Walk the Moccs	An insight into what life was like to live in a town that had the highest rate of violence compared to any RCMP detachment in all of Canada as well as the highest rate of teen pregnancy per capita. How I survived my experiences and turned them into educational opportunities for others.
James Raffan	Life Story	Circling the Midnight Sun	This is a presentation about the peoples of the circumpolar world based on my book of the same name, which tells the story of a four year journey around the world at the Arctic Circle.
Jean Francois Carrey	Life Story	How to eat your elephant	Life story about becoming the youngest canadian to climb Everest
Laura Lucier	Life Story	From Wooden Sticks to Space Ships	Since she was six years old, Laura wanted to be an astronaut. This desire has led to some incredible adventures. Laura now works at NASA Mission Control, operating the Canadian robots onboard the International Space Station.
Mary Simon	Life Story	TBD	
Pascal Lee	Life Story	MY LIFE ON MARS: Adventures of a Planetary Scientist on Planet Earth	What (on Earth) am I doing here? How did I get here? Some odd things I do/did and learned from: Grow up in Hong Kong and Paris, Winter over in Antarctica, Drive the Northwest Passage, Test Spacesuits in the Arctic, Fly Helicopters, Climb Erupting Volcanoes, Escape Death, Write a Children's Book, Love dogs and the Arctic. Plus some free advice.
Rosemarie Keough	Life Story	Serendipity and The Beer Bottle House	Pat Keough, teenager, built a house from 40,000 beer bottles on a remote South Pacific island. Connections from this adventure involve Rosemarie, NASA's medical adviser for the Mars mission, a Pacific salmon researcher, two bank tellers and a woman in Fiji. The tale starts with Captain Cook, William Bligh, Fletcher Christian and the Mutiny on the Bounty...
Sarah Harmer	Life Story		
Tarek Sherif	Life Story	A Wonderful Life	Immigrated to America, age 6 with my family. Grew up in a multi-national, multi-racial environment, facing obstacles throughout my youth. Pursued a career in finance after university. After 15 years of various jobs met Medidata's co-founders, ultimately redefining my career. Have run Medidata for the past 15 years, a public technology company powering smarter treatments and healthier people.

ANNEXE 3 – Call for action ⁺

Acting on Climate Change: **Extending the Dialogue Among Canadians**

A collection of texts in response to
Acting on Climate Change:
Solutions from Canadian Scholars,
a consensus document released in March 2015





ABOUT THE ORGANIZATION

NORDMAB'S STUDENTS ON ICE

CORINE CADORET AND NOAH PICARD-SIMON

Resulting from a call for applications issued by the Manicouagan-Uapishka World Biosphere Reserve (RMBMU), two students from that region were selected to participate in an Arctic expedition July 28th - August 9th, 2015: Corine Cadoret and Noah Simon Picard.

This initiative was the result of a partnership between the renowned international organization Students On Ice and UNESCO's Man and the Biosphere Northern network (NordMAB), mainly supported by the Nordic Council of Ministers. As co-leader of this network, the RMBMU received funding for participation of the two Manicouagan youth from the Department of International Relations and La Francophonie and the Canadian Commission for UNESCO.

In addition to the pre-departure activities coordinated by Students On Ice, Corine and Noah held preparatory meetings with the Société du Plan Nord and the Canadian Commission for UNESCO. In addition, a meeting with Dr. Catherine Potvin of Sustainable Canada Dialogues was held to prepare the drafting and dissemination of a call to action that would be an outcome of the youth's observations and reflections during and after their expedition. The experience has inspired them to share with the world what is happening in real time in the Arctic and how youth can play a role in the fight against climate change. After writing their call to action, the youth received endorsement from 66 other student participants of the 2015 expedition.

FOR MORE INFORMATION, PLEASE CONTACT

info@rmbmu.com

OFFICIAL WEBSITE

studentsonice.com



NOAH PICARD-SIMON & CORINE CADORET

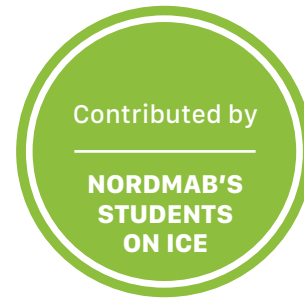
© DOMINIQUE POTVIN

"I was impressed to feel at home in the Inuit communities despite the distance, isolation and difference of language. At the same time, there was something similar to what I know; we have common challenges, and community and family life that resemble one another. After the expedition, I enrolled in a technical program in wildlife and land management, whereas before the expedition, I had no idea what I really wanted to study."

Noah Picard-Simon, 17 years old, student from Pessamit

"I walked on a huge glacier and the experience was very inspiring. However, one of the specialists present told us that if we were to return to the same place next year we would be walking on stones, because this part of the glacier will have melted. It made me realize the impact on northern territories of industrialized countries' decisions. This motivated me to want to share with my region my experience in the Arctic."

Corine Cadoret, 17 years old, student from Baie-Comeau



Call to Action

Original text in French available at www.sustainablecanadialogues.ca/fr/vert/versundialogue

On July 29th, 2015 we began our Arctic expedition along with more than 100 other students from all around the world, plus 80 experts from the scientific, artistic and cultural worlds. The main objective was to better understand and observe changes in Greenland and Nunavut due to climate change. After two weeks of expedition, we had gained new cultural and scientific knowledge, inspiring us to raise the world's awareness about what is happening in real time in the North and why we, the youth, must act today.

First of all, most people seem to be ignorant of the diversity of life that occupies polar territories. Indeed, we need to realize that inhabitants of the Earth's summit are the first victims of our actions and that we are progressively destroying what they have built over thousands of years. As an example, pollution residues from China were discovered beyond the Arctic Circle. For us, this is non-negligible evidence that regions visited during the expedition are affected by the choices of rich countries. The heads of state around the world must understand that their decisions affect the Arctic and, like the canary in the coal mine, what is happening in the North is only a foretaste of what awaits us all. As young citizens of the world, we realized

that the present of northern communities is a reflection of our future.

As we speak, Arctic communities are facing melting ice. This fact challenges the knowledge of nature that Arctic elders have developed and used for thousands of years, and drastically affects their lifestyle. Besides being essential to their way of life and the practice of their traditional activities, the ice is the habitat of numerous species that play an important role in ecosystems. So, if it disappears, CO₂ emitters will be the cause of the extinction of a flame that has illuminated a region of the world since time immemorial.

Listening to the testimonies of communities who live every day what we experienced during those two weeks, we realized that too little is done by industrialized countries to prevent climate change. Being young people who have had the opportunity to explore the Arctic, we are particularly moved by current decisions taken by industrialized countries that will affect us all sooner rather than later.

In 2015, it is our duty to mobilize not only for the Arctic, but especially to limit the consequences of climate change around the globe. The voice of youth supports the scientists

in their efforts to shake our leaders. We appeal to all young people to get informed and to remain alert to any opportunities that arise around them to make their voices heard, whether participating in a local, national or international event, targeting climate change

as a subject in school work or being involved in a local committee. We recognize the importance of seizing these opportunities, but also of having the courage to create them ourselves. The impacts are visible, the damage is extensive and it is time for action!

Endorsed by

1. **Ahmad Amirul Farhan bin Zulkifli**, 16 years old, Terengganu, Malaysia
2. **Alice Xu**, 16 years old, Richmond, British Columbia, Canada
3. **Alicia Wang**, 15 years old, Shanghai, China
4. **Amber Rose Dwyer**, 18 years old, Salt Lake City, Utah, USA
5. **Andrew Fitzsimmons**, 23 years old, Regina, Saskatchewan, Canada
6. **Andrew Xu**, 16 years old, Guelph, Ontario, Canada
7. **Ashley Cummings**, 17 years old, Iqaluit, Nunavut, Canada
8. **Beatrice Chemtov**, 16 years old, Montreal, Quebec, Canada
9. **Brian Robert Ituluk**, 17 years old, Iqaluit, Nunavut, Canada
10. **Caitlyn Baikie**, 23 years old, Nain, Nunatsiavut, Newfoundland and Labrador, Canada
11. **Cameron Flooren**, 17 years old, Fort Vermilion, Alberta, Canada
12. **Camille Morin**, 30 years old, Gatineau, Quebec, Canada
13. **Charmaine Putulik**, 17 years old, Nauyasat, Nunavut, Canada
14. **Christella Igihozo**, 18 years old, Rwanda
15. **Christina Cheung**, 17 years old, Vancouver, British Columbia, Canada
16. **Cody Pisteolak**, 18 years old, Pond Inlet, Nunavut, Canada
17. **Dakshita Jagota**, 17 years old, St. John's, Newfoundland and Labrador, Canada
18. **Darshana Powell**, 14 years old, Barrie, Ontario, Canada
19. **Didiane Shengedidi**, 17 years old, Rwanda
20. **Emi Kingan**, 15 years old, Hong Kong, China
21. **Erinn Drage**, 20 years old, Halifax, Nova Scotia, Canada
22. **Evie Rowe**, 13 years old, Washington, USA
23. **Frédérika Giorcelli**, 17 years old, Monaco
24. **Gabrielle Foss**, 18 years old, Toronto, Ontario, Canada

25. **Gage Nochasak**, 17 years old, Nunatsiavut, Labrador, Canada
26. **Goliah Makletzoff-Cazon**, 18 years old, Yellowknife, Northwest Territories, Canada
27. **Grace King**, 17 years old, St. John's, Newfoundland and Labrador, Canada
28. **Henry Daniel**, 17 years old, Ottawa, Ontario, Canada
29. **Indigo Goehring**, 14 years old, Nevada City, California, USA
30. **Isobel Obrecht**, 15 years old, San Francisco, California, USA
31. **James Takkiruq**, 15 years old, Gjoa Haven, Nunavut, Canada
32. **Jesse Zarger**, 17 years old, Mississauga, Ontario, Canada
33. **Justin Roméo Jean-Jacques Sargenti**, 16 years old, Menton, Monaco
34. **Kathleen Morrissey**, 23 years old, St John's Newfoundland and Labrador, Canada
35. **Kevin Huo**, 16 years old, Foster City, California, USA
36. **Kristine Onsum Moseid**, 23 years old, Oslo, Norway
37. **Krystyna Urbancic**, 17 years old, Kingston, Ontario, Canada
38. **Lindsay Joy Evaloajuk**, 19 years old, Qikiqtarjuaq, Nunavut, Canada
39. **Lindsey Zeikel**, 19 years old, New Jersey, USA
40. **Lyric Oblin-Moses**, 17 years old, Waswanipi, Quebec, Canada
41. **Mackenzie Jefferies**, 17 years old, Corner Brook, Newfoundland and Labrador, Canada
42. **Madeline Yaaka**, 14 years old, Kangiqsujuaq, Quebec, Canada
43. **Madi Sheritt**, 17 years old, Carman, Manitoba, Canada
44. **Malu Ostermann**, 18 years old, Sisimiut, Greenland
45. **Matt Thompson**, 16 years old, Ottawa, Ontario, Canada
46. **Matthew Newell**, 15 years old, Ottawa, Ontario, Canada
47. **Mehra Balsara**, 16 years old, Newcastle, Ontario, Canada
48. **Michael Mehreteab**, 17 years old, Mississauga, Ontario, Canada
49. **Michal Leckie**, 17 years old, Ottawa, Ontario, Canada
50. **Milo Goehring**, 11 years old, Nevada City, California, USA
51. **Myca Nakashuk**, 16 years old, Pangnirtung, Nunavut, Canada
52. **Nathan Luke Pinto**, 17 years old, Mississauga, Ontario, Canada
53. **Nicholas Leroux**, 16 years old, Chelsea, Quebec, Canada
54. **Parr Josephee**, 16 years old, Cape Dorset, Nunavut, Canada
55. **Pauli Illuitok**, 22 years old, Kugaaruk, Nunavut, Canada

- 56. **Petra Brown**, 17 years old, Ottawa, Ontario, Canada
- 57. **Phoenix Masson-Wavey**, 18 years old, Winnipeg, Manitoba, Canada
- 58. **Rachel Boere**, 20 years old, London, Ontario, Canada
- 59. **Raphael Dury**, 20 years old, Montreal, Quebec, Canada
- 60. **Robert Comeau**, 20 years old, Iqaluit, Nunavut, Canada
- 61. **Robert Hrabchak**, 20 years old, New Jersey, USA
- 62. **Ruth Suwaksiork Kaviok**, 17 years old, Arviat, Nunavut, Canada
- 63. **Shadunjen van Kampen**, 17 years old, Whitehorse, Yukon, Canada
- 64. **Shawn Tourangeau**, 17 years old, Fort Smith, Northwest Territories, Canada
- 65. **Sophia Winkler**, 18 years old, Carrboro, North Carolina, USA
- 66. **Vivian Lee**, 18 years old, Vancouver, British Columbia, Canada



ABOUT THE INITIATIVE

SUSTAINABLE CANADA DIALOGUES

This contribution is part of a collection of texts, *Acting on Climate Change: Extending the Dialogue Among Canadians*, stemming from interactions between Sustainable Canada Dialogues, an initiative of the UNESCO-McGill Chair for Dialogues on Sustainability, and business associations, First Nations, non-governmental organizations, labour groups, institutions, organizations and private citizens.

Sustainable Canada Dialogues is a voluntary initiative that mobilizes over 60 researchers from every province in Canada, representing disciplines across engineering, sciences and social sciences. We are motivated by a shared view that putting options on the table will stimulate action and is long overdue in Canada.

Together, the contributions enrich the scope of possible solutions and show that Canada is brimming with ideas, possibilities and the will to act. The views expressed in *Acting on Climate Change: Extending the Dialogue Among Canadians* are those of the contributors, and are not necessarily endorsed by Sustainable Canada Dialogues.

We thank all contributors for engaging in this dialogue with us to help reach a collective vision of desired pathways to our futures.

FOR MORE INFORMATION, VISIT OUR WEBSITE

sustainablecanadadialogues.ca/en/scd/acting-on-climate-change

Annexe 6: Break out session content, Arctic circle Conference



Break out session proposal
Arctic Circle Conference 2015

UNESCO biosphere reserves Nordic cooperation :
Fostering nordic sense of belonging

The NordMAB network
May 2015

INTRODUCTION

UNESCO'S BIOSPHERE RESERVES

Biosphere Reserves are learning sites for sustainable development. They are sites designated by national governments and recognized by UNESCO under the Man and the Biosphere Programme (MAB) to promote sustainable development based on the combined efforts of local communities and the scientific world.

These reserves are intended to reconcile the conservation of natural and cultural diversity and to promote economic and social development. Biosphere Reserves are therefore considered as:

- Sites of excellence, where new practices are tested and developed for better management of natural resources and human activities;
- Tools to assist countries in implementing the World Summit on Sustainable Development's recommendations and, in particular, those from the Convention on Biological Diversity and the ecosystem approach;
- Learning sites for the UN Decade of Education for Sustainable Development.

The Man and the Biosphere Programme (MAB) is an intergovernmental, scientific programme with the goal of establishing a scientific basis for improving human relations and nature worldwide. Launched in the early 70's, MAB offers an interdisciplinary research agenda. MAB brings together several disciplines – natural sciences, social sciences, economics and education – to improve human environments and preserve natural ecosystems.

In particular, it encourages innovative approaches to economic development that respect cultural and ecological social values.

NORDMAB

NordMAB is a thematic network within UNESCO's Programme on Man and the Biosphere (MAB), with the objective of enhancing cooperation among Nordic Biosphere Reserves (BR). NordMAB is a network of Nordic BR, associates and partners, at the intersection of a UNESCO regional network (in Nordic countries) and a thematic network (sharing Nordic challenges) that involves Norway, Sweden, Finland, Denmark (Greenland), Estonia and Canada.

NordMAB biosphere reserves have the following issues in common:

- Large territories and small population
- Remote and sparsely populated regions
- Youth leaving for larger centers
- High quality but fragile natural environments
- Abundant natural resources
- Large-scale industrial projects
- Presence of First Nations
- Cold climate
- Arctic, sub-arctic and/or boreal environments

BREAK OUT SESSION OBJECTIVES AND CONTENT :

1. Present UNESCO's biosphere reserves program and network
(<http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/>)
2. Present UNESCO's Nordic collaboration network of Biosphere Reserves: NordMAB. Present its action plan and vision.
3. Present results and concrete realisations in the following 2 fields :

a) Fostering Northern sense of belonging

Presentation of the partnership between NordMAB and Students on Ice through the experience of two NordMAB youth that participated in the 2015 SOI Arctic expedition (Greenland and Canada). The expedition is a profound hands-on experience for youth to expand their knowledge of the changing circumpolar world, foster a new understanding and respect for the planet, and gain the inspiration and motivation needed to help lead us to a healthy and sustainable future.

5 minutes video of the youth during the expedition, their reasoning and considerations during the program, including visits to Arctic communities, acquire of first-hand knowledge and insight into the dynamics of climate change, traditional knowledge, scientific research, policy and other important Arctic and global topics.

b) Usage of traditional knowledge

Presentation of the Innu – Samis collaboration through NordMAB, consisting of the creation of a common territorial agents training program linked with international internships for Samis in Innu communities and Innus in Sami communities. As well, consisting of good practices sharing on the challenges of women in indigenous communities . The Innus of Pessamit and Samis of Gran has been collaborating since 2013 on those 2 aspects.

RELEVANCY FOR THE ARCTIC CIRCLE CONFERENCE PROGRAM

The break out session links with the following conference objectives

- Sea ice melt and extreme weather (climate changes)
- The role and rights of indigenous peoples
- The prospects and risks of oil and gas drilling
- Clean energy achievements and sustainable development

SPEAKERS

Confirmed. Jean-Philippe L Messier, NordMAB leader and National Chair of Canadian Biosphere Reserves.

Confirmed. Johanna MacTaggart. National MAB coordinator, Sweden.

Confirmed (or vice-chief of council). René Simon. Chief, Pessamit Innu Community, Québec, Canada.

Confirmed. Tobias Johnson. Chief, Gran Sami village, Sweden.

ORGANIZER

NordMAB

INSTITUTIONAL REFERENCES

UNESCO MAB thematic network

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