

## AICC Winter Meeting Notes 4 & 5 February 2021

Adam Stenseth	Andrew Woogen	LT Bailey Miller	Ben Edwards
Brandi Murphy	Brendon Mendenhall	Bridget Harrell-Donze	Bruce Appelgate
Carin Ashjian	CDR Chris Tuckey	Dave Forcucci	David Allen
Danielle Dickson	Dean L	Doug Baird	Doug Russell
Emily Eidam	Ethan Roth	Frank Rack	Jackie Grebmeier
Jean McGovern	Jeff Garrett	Jeff Hardwick	Jeff Welker
Jim Swift	Jim Thomson	John Farrell	John Reeves
Kaare Sikuaq Erickson	Laurie Juranek	Lee Cooper	LCDR Andy Dennelly
Mark Miller	Miguel Goni	Nancy Sung	Nicholas Benz
Ola Persson	Renee Crain	Ryan Young	Sam Laney
Sarah Kaye	Scott Harper	Seth Danielson	Toby Irby
Todd Irby	Rob Sparrock	Robert Campbell	

Participants: 47

### Day One – 04 February 2021

#### Introduction

##### 0830 Welcome - Sam Laney

- Zoom Etiquette
- 26<sup>th</sup> Year of the AICC
- Two new Committee members Seth Danielson from UAF and Emily Eidam from UNC.
  - Mike Lomas and Chris Polashenski have both departed the committee.
- New member from RVTEC – Ethan Roth
- Steve Hartz has retired. He has been very important to US Arctic Science. Critical to where we are now. Decades of expertise.
- Condensed meeting due to virtual meeting.
- Near term and short deadline items first

##### 0835 UNOLS Report - Doug Russell

*Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>*

- Healy couldn't join us today because they are underway. They are hoping to be able to call in tomorrow.
- 50<sup>th</sup> year of UNOLS
- Covid – continue to risk assessments, over 140 cruises science re-start from the “Pause”, one case on ship but identified during post cruise testing, no one else on the ship tested positive
  - Vaccination Issue – how to apply to academic research fleet & impacts on how we conduct seagoing science

- UNOLS Marine Facilities Planning (MFP) – review of system development & upcoming roll out
  - STRS is not going away
- Virtual Meetings Continues – anticipate that they will continue at least through the summer
- Dennis Nixon retired as our Risk Manager – Jonathon Guttoff took his place

#### **0845 Chair Report - Sam Laney**

- Losing three people that have been with us a long time: Ana Aguilar-Islas, Jeff Welker, and Ola Persson
  - Have to go through recruitment cycle and find three successors
  - Big part of the job this year
  - Ana Aguilar-Islas is our ex-officio member to the Sikuliaq as well, so we will have to work with UAF to find a successor
- We set up some working groups this year.
  - Why working groups?
    - Best Practices for the future.
    - Chief Scientist communicating during field work.
    - How meteorology and atmospheric sciences are being done now and how they will be done in the next five years.
  - Need ideas for new working groups this year.
  - Eye on the future.

### **Ship Updates**

#### **HEALY**

#### **0850 STARC Current Efforts - Brendon Mendenhall**

*Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>*

- UW is now part of STARC pool
- 2020 Mobilization – very successful
  - Pre-Season Projects
  - Shakedown
  - Harmful Algal Bloom cruise – Canceled due to COVID-19
  - Bering Shield – two techs collected u/w data
  - AMOS/CAATEX – Canceled due to engineering casualty
- 2021 Mobilization –
  - Cruise Planning in Progress – Dependent on completing starboard propulsion motor repair & testing
- 2022 Drydock Work Items

*Questions/Comments:*

*Ola Persson– Ice imagery – what kind will be available? Some are more detailed than other.*

Brendon Mendenhall - We would like to integrate Radar Sat2 as well. Like to integrate those with the NIC products. Product will also be available to scientist on board. It will be a broad-spectrum tool available on the ship.

## 0920 Polar Science Network Update - Sarah Kaye

Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>

- ATO/ CCRI Compliance
  - Authority to operate / Command Cyber Readiness Inspection

Questions/Comments:

Jim Thomson – Will there be any restrictions against users bringing their own network? One that would never touch the system on board.

Sarah Kaye – Pre-Approval from ship. Advance planning. Probably would be ok.

- VSAT Hardware End of Life
  - Contract ends 28 Sept 2021
  - Current Hardware no longer supported
  - Replacement options: purchase vs lease
  - Purchase cost for hardware is 300K
- Onboard Network Fiber Replacement - Local Area Network (LAN)
  - Onboard network fiber plant
  - Old, limited capacity, broken runs
  - Not compliant with current cyber security standards

Questions/Comments:

Brendon Mendenhall – What challenges are there to get plan approved?

Sarah Kaye – Funding is the biggest challenge

Doug Russell – I can get you the cost of when we replace the fiber network on the Thompson

Sarah Kaye – Thank you that would be great

Rob Sparrock – You might want to talk to SCRIPPS about when they did the fiber network on the Revelle

Doug Russell – Revelle, Atlantis, Thompson all completed fiber network upgrades

Ryan Young – Please send that info to me as well

Frank Rack – could you send into to me as well

- Personnel – Adam Stenseth moved to UW. Looking for Network Admin.

## 0935 STARC Future Project Discussion – Bruce Appelgate

Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>

- Ordinarily Lee Ellett would give presentation but he is out today.
- Multibeam Replacement
  - Reached out to AICC and got their opinions
  - Option 1 – Kongsberg EM712

- Option 2 – Kongsberg EM2040
- Decision Points have been reached – need guidance
- Fisheries Sonar: EK80 18kHz and 38kHz
- Sub-Bottom Profiler – Reaching end of life and becoming obsolete
- STARC recommendation – Replace with Kongsberg SBP29
  - Reference Hydrophone Replacement
  - Acoustic Release Modem

*Questions/Comments:*

*Rob Sparrock – Does upgrade include a SeaBird Reference uni ?*

*Brendon Mendenhall – We currently have a sea pap on board, and it is working quite well. We don't plan on replacing it.*

*Brandon Mendenhall – When we talk about the installation of these packages, we want you to know they won't interfere with the drydock package as it stands.*

*Ola Persson – With all of your different options, there are lots of different complexities. Are there any significant costs differences between the different options? And what about the systems? Are one or more of the options a better fit for how the HEALY is regularly used?*

*Brandon Mendenhall – There is a cost difference. The larger system is more expensive. Balanced out by not having to purchase other items. 12kHz is better going through ice windows. Shallow water range is limited. EM304 utility in arctic basin is quite broad. But some areas are deeper than can be mapped. Hull modifications will be the same. Most important for the users to get what they want out of the system. We really would like input from the scientific community and what they would like to see. I think the cost will be comparable.*

*Ola Persson – So the key thing is getting the input form the scientific community?*

*Ethan Roth – Talk to Seacom to get their input.*

*Frank Rack – Wanted to thank Brendon, Bruce and Lee for getting this all together. And I want to encourage feedback from the community. Encourage interagency colleagues that if you have any input you want to share with me at NSF please do that. Input from community is really important.*

*Sam Laney – AICC recommendations aren't exclusive of the STARC recommendations. Really appreciate all of the help that has been pouring in. Our continued reliance on subject matter experts. Would it benefit to have a short, one-month, open community input comment period? Post this info on the UNOLS website. Formal open period for very short period of time. I just think it might be a good idea. Science users of these systems might not be the main users. This ship is going to start serving different roles in different agencies than AICC is used to thinking about.*

*Bruce Appelgate – We welcome all input. My only concern is the timing that Frank Rack alluded too. As long as we can work within the timing absolutely think this is a good idea.*

*Sam Laney – We can work with Doug after the meeting to follow up with this and see how to collect the data.*

*Frank Rack – A lot of this discussion is predicated about the operating area of the Healy. The HEALY may start working in different areas.*

*Doug Russell – We will work with you to get something out to the community.*

## **SIKULIAQ**

## 0955 2020 Operations / 2021 Plans - Doug Baird

Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>

- Spring cruises – Cancelled due to COVID
- Summer – Gulf of Alaska
- Autumn & Early Winter – Chukchi and Beaufort Seas and west Coast.
  - Because of local community concerns we loaded and offloaded personnel in Seward instead of Nome
- 134 operation days (50% FOY)
  - Increased cost for quarantine
  - Decreased cost on fuel
- 2021 Plans – Plan on quarantining for the whole year

Questions/Comments:

Frank Rack – *The Mercury Cycling cruise, I thought it was scheduled for the spring.*

Doug Baird – *We are doing it in May. I guess that depends on if you consider May spring or not.*

Ola Persson – *Where are you staging the Chukchi Stages cruise out of?*

Doug Baird – *Staging out of Seward and offloading in Nome.*

## 1015 Tech Updates - Ethan Roth

Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>

- FIC and RCRC Committees
- <https://www.sikuliatq.alaska.edu/ops/> - new ops website.
  - Welcome any feedback
- Projects of interest to the AICC
  - Science seawater intake system for in-ice operation
  - Satellite communications at high latitudes
    - Geostationary (GEO) and Low Earth Orbit (LEO)
  - HiSeasNet
  - Sealink
  - Fleet Xpress
- If PIs want to pay for bandwidth expansions, this will be possible.
- Dual antenna systems – Should have more consistent connectivity
- Advanced shipboard computer cluster for data collection and network resources
- 2021 LEO Pilot with Kepler Communications
- SKQ Polar Operations – NSF Specialized Service
- Software Defined Data Center (SDDC)

Questions/Comments:

Ola Persson – *Kepler System was on board the R/V Polarstern during MOSAIC. Tech people on board would cache what people wanted to send then once or twice a day ship the information off. If you want more feedback from the tech people on board, I can give you some names.*

Ethan Roth – *Yes, I would like that. But also, just so you know, Kepler has launched two new satellites since MOSAIC.*

Brendon Mendenhall – STARC has been interested in Kepler. In your collaborations with them have you heard if they are going to establish a US based ground station?

Ethan Roth – They have not mentioned that. I do not know about their plans for Earth Stations. They are developing their Gen2, broad band service. That is where they are heading into Gen2. Broad band internet for Arctic Maritime.

Brendon Mendenhall – Them not having a US based Earth station is blocking us from using them on the HEALY.

Frank Rack – Your program manager at NSF, is that Jim Holik?

Brandon Mendenhall – Yes and Pat Smith NOPP.

Break for 5 minutes.

## Agency Updates

### 1035 National Science Foundation - Frank Rack

Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>

- NSF Budget Update – 2.5% increase from FY20 to FY21
- Office of Polar Programs – Arctic Sciences Section
  - Simon Stephenson is Section Head – he is retiring at the end of February. There are other open program director positions open as well, that will need to be filled.
- Arctic Research Opportunities
- Navigating the New Arctic
  - <https://nna-co.org/>
- Proposal & Award Policies & Procedures Guide – PAPPG
  - [https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id+505594](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id+505594)
- Battelle Arctic Research Operations (ARO) Team
  - <https://battlearcticgateway.org>
  - [arctic.planning@battelle.org](mailto:arctic.planning@battelle.org)
- Impacts of COVID-19 on Arctic Research
- MOSAIC Year – 19 SEP 2019 – 12 OCT 2020 – Very Successful
  - 20 Nations
  - 7 icebreakers/ships
  - 60 institutions
  - 400 Field participants
  - \$165M Total
  - 5 Legs
- Northwest Passage Project (NPP) Free Screening of Documentary Film ‘Frozen Obsession’
  - <https://northwestpassageproject.org/the-documentary/>

Questions/Comments:

John Farrell – Updates from NSF regarding any agreements between NSF and any other countries consortium.

*Frank Rack – Have an agreement with Swedish consortium. What we have been doing the past few years is to negotiate a memorandum with each program and the different countries consortium. Danish. Greenland.*

### **1050 U.S. Coast Guard - CDR Chris Tuckey**

- Oversight of domestic and polar ice operations for the U.S. Coast Guard
- Polar Security Cutter – just about ready to lay the keel. Delivery at end of FY 2024.
  - First major obstacle is to have the ship certified to go south.
  - Will be able to support science by the onload of containerized science suites.
  - Funded for at least two cutters
- POLAR STAR went North due to COVID-19. Next year she will have her surface life extension program. Stay online until first PSC is fully certified.  
Delivery of 2<sup>nd</sup> PSC in 2026.

*Questions/Comments:*

*John Farrell – New Polar Security Cutter will be able to support science?*

*CDR Chris Tuckey – Science equipment can be onloaded. There is some intrinsic science but labs and such will have to be onloaded. 20' containers will be able to onloaded. Ship will still have the ability to map the arctic.*

*John Farrell – Will it have a multibeam?*

*CDR Chris Tuckey – I believe it will. But I have to double check.*

*Dave Forcucci – It will have multibeam and will have over the side CTD system.*

*Ola Persson – Will there be basic meteorology systems and upper ocean measurements?*

*CDR Chris Tuckey – Yes, there will be meteorology systems.*

*Ola Persson – Will this data be available in quasi real time?*

*CDR Chris Tuckey – I believe so, but don't have specifics.*

*Ryan Young – We were able to get some science of opportunity on the POLAR STAR during north cruise*

*LCDR Andy Dennelly – On the POLAR STAR ideally, we could have hosted autonomous airborne vehicle, but we were not to make it happen. Able to work with Dr. Pickart from WHOI.*

*Expendable CTD. Putting out ice buoys.*

*Ryan Young – I would like to see the PSC program present at the next AICC about the details of what the PSC will have on board.*

*CDR Chris Tuckey – Still in a design phase. We have basic requirements. I will see what we can do to provide you more details*

*Brendon Mendenhall – I have been fielding some questions from CG about what the HEALY has on board. Would STARC personnel be asked to assist with the uw collection of data?*

*CDR Chris Tuckey – HEALY will be around longer which will free up the PSC to do other work. The PSC have a different primary mission. I don't have answer about STARC for now.*

*Bailey Miller – Where will PSC be based out of?*

*CDR Chris Tuckey – The plan is for the first two to be based out of Seattle. Not sure if it has been determined where the rest will go.*

*Sarah Kaye – Did a SDN make it into the design?*

*CDR Chris Tuckey – I do not know the answer, but I will look it up and let you know.*

Frank Rack – The CG MOU with NSF. Wanted to thank the USCG for working with NSF.  
CDR Chris Tuckey – Will get more details and give a more thorough update for the next AICC meeting.

## 1105 Office of Naval Research - Rob Sparrock

Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>

- Things have not changed much with our partnership
- National Oceanographic Partnership Program (NOPP)
- Task Force Ocean (TFO)
- Full Spectrum Anti-Submarine Warfare
- Arctic Research
- Navy's Strategic Blueprint for the Arctic published Jan 5, 2021.
  - Probably good to look at if you are trying to get funding from the Navy
- Signed MOUs with a number of entities.
- <https://www.onr.navy.mil/en/Science-Technology/ONR-Global/ICE-PPR>

## Office of Naval Research - Scott Harper

- Arctic Mobile Observing System
  - Don't have year-round observing system in the arctic
  - Did some work with acoustic navigation system.
  - FY 2019-2023 extra money to build prototypes and deploy them into the arctic and then getting data out in near real time. Solid arctic domain awareness. Communication between the components. Slowed down due to motor fire on the HEALY. Turning over science mooring and acoustic mooring. Sikuliaq has stepped in for 2021. Trying to get some joint time on the HEALY. Have a navigation system out there that we need to recover. If we can't get the HEALY up there, what do we do? Hire the ODEN?
  - Looking for any advice or collaborations you are willing to give.
- LCDR Andy Danley – Talking to Craig Lee at ONR that we should be able to support the mooring in the arctic. AMOS moorings. I think we will be able to whittle it down to 60 hours. We are working very hard to work into the Healy summer schedule
- Scott harper – Thank you. That is great news.
- LCDR Andy Dennelly – We will continue to coordinate.

*Questions/Comments:*

*Ryan Young – CG would appreciate input from ONR what their needs would be considering the sonar systems we talked about this morning. Brendan Mendenhall at STARC would be your best POC*

*Scott Harper – I would be happy to talk to him and collaborate on that.*

*Brendon Mendenhall – Funding is always a problem. Really look forward to having continuing conversations Having an HDSS on HEALY has not been discussed.*

*Brendon Mendenhall – Comment for Danley. STARC will be on Healy for collection of data. If you are needing anything for mooring recovery looking forward to discussing.*

## 1120 NOAA - David Allen

Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>

- Jackie Grebmeier and Lee Cooper displayed heroic efforts this year.
  - Were able to get out to sea a couple of times this year in spite of COVID
  - NOAA Ship OSCAR DYSON – Aug 24- Sept 26, 2020
  - Chief Scientist was remote.
- Had a team on board Norseman II October 2-22, 2020
  - Nome to Nome
  - 2021 EcoFOCI/DBO-NCIS Cruise
  - August 10 -Sept 30, 2021
  - Seattle to Kodiak

Questions/Comments:

*Doug Russell – What is your COVID procedures? How are you quarantining?*

*David Allen – Different from UNOLS approach. Predeparture 14 days of observation of health systems and reporting to medical officer. Predeparture Covid test. 7 days of shelter in place.*

*Testing on Day 4. Embarking on ship on day 7.*

*Jackie Grebmeier – Cruise in October. Allowed us to fly into Anchorage and quarantine there. Allowed us to go on contract flight to Nome. Drove us from airport straight to ship.*

*David Allen – Marine Health Service and NOAA has not had an outbreak on a ship. Operating since August.*

*Seth Danielson – I want to thank David for all of his efforts. Multi-institutional effort to pull off the NORSEMAN II cruise. Very impressive to get it off in short amount of time.*

## 1135 National Ice Center - LT Bailey Miller

Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>

- U.S. National Ice Center
  - Domain Awareness
  - USNIC Tailored Support Program – provides critical situational awareness to US interests (national defense, resupply R&D) operating in or near sea ice
  - Current conditions, 48-hour forecast, 45-day outlook
  - <https://usicecenter.gov/>

Questions/Comments:

*Sarah Kaye – IT support for the Healy, covering NW Passage*

*Bailey Miller – great let's get in touch*

*Doug Russell – Glad to help people connect*

*Ethan Roth – When you work with Sentinel do you use the freely available data or do you have a contract*

*Bailey Miller – We use what is freely available. Radar Sat2*

*John Farrell – When you are ordering Radar Sat2 imagery, do you have budget set out ahead of time. Secondly the National Ice Center will support any US government funded agency or academics that are funded by US government, correct?*

*Bailey – Yes, that is correct. We do our budget annually, so we might order less imagery at the end of the year when the money is running out. We do not specifically limit images. We balance the budget by the year. We get much tighter on money at end of FY.*

*John Farrell – Do you support US government funded science on foreign vessels too?*

*Bailey – Yes, we supported science on a foreign vessel going to Svalbard this year for MOSAIC.*

*Ben Edwards – I have really enjoyed all of the talks. I am interested in getting undergrads involved in the Arctic. Just got funding to start an Arctic program at my school, Dickenson College. You will probably all be getting emails from me. Wanted to say hi and to thank you all. If have any ideas for undergrad research projects or want to visit my class I would love that.*

*Doug Russell – Thanks for joining us Ben. You landed in the right spot for information and expertise.*

*Jim Thomson – Just want to thank Bailey and mention how useful the Ice Center has been. We use the data for years after the cruise.*

*Bailey – Thanks, I will pass that on to the analysts.*

Sam Laney:

Very productive part of our meeting.

We have had to compress the meeting time.

If you have more information to share, please let me or Doug know.

We can help transmit information.

If anyone feel that there is a gap or more info could be shared let me or Doug know

Tomorrow is more looking forward, larger discussions.

Only two 15 minutes listed on agenda but plan on an additional 30 minutes for open discussion.

Doug Russell:

Thanks for sending all the presentations in advance. Will be posting on the website.

## AICC Winter Meeting Notes 4 & 5 February 2021

Ana Aguilar-Islas	Adam Stenseth	Andrew Woogen	Ben Edwards
Brandi Murphy	Brendon Mendenhall	Bridget Harrell-Donze	Carin Ashjian
Craig Lee	Dave Forcucci	Doug Baird	Doug Russell
Emily Eidam	Ethan Roth	Frank Rack	Iarr Dean Lambourn
Jackie Grebmeier	Jean McGovern	Jeff Garrett	Jeff Hardwick
Jeff Welker	Jim Swift	Jim Thomson	John Farrell
John Reeves	Kaare Sikuaq Erickson	Laurie Juranek	Lee Cooper
Marie-Pierre Parenteau	LCDR Mathew Stevick	Marin Kuizenga	Martin Robards
Ola Persson	Olivia M.	LCDR Phillip Baxa	Renee Crain
Robert Campbell	Rob Sparrock	Ryan Young	Sam Laney
Sarah Kaye	Scott Harper	Seth Danielson	Tiffany Thornton
Toby Irby			

Participants: 45

### Day Two – 05 February 2021

#### Introduction

##### 0830 Welcome - Sam Laney

- Reports from HEALY
- Brainstorming and looking to the future

#### HEALY Updates

##### 0830 2020 Operations & 2021 Plans - LCDR Phillip Baxa

*Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>*

- 2020 Recap –
  - Operation Bering Shield & Operation Arctic Shield
  - AMOS-CAATEX
- 2021 Deployment:
  - Icebreaking testing
  - Northwest Passage
  - Baffin Bay
  - The Journey Home
- HEALY Engineering – LCDR Stevick
  - #1 Main Propulsion Motor Replacement
    - Mare Island Drydock
    - Motor temp bolted in place
  - Dockside Maintenance Availability
    - Cranes, flight deck, maintenance
  - 2021 Equipment Embarkation

- Virtual planning meetings, 18 Feb is the next one

Questions:

*Sarah Kaye – Will the planned flight deck work expose the computer lab to weather?*

*HEALY – Should not affect the computer lab at all, but it will be incredibly noisy.*

*Sarah Kaye – I would like to have a schedule for that work.*

*HEALY – We will get that to you.*

*Frank Rack – I would like to request that the USCG include me for NSF in the 18 FEB planning meeting.*

*Ben Edwards – I have submitted an application to do science in 2021 trip. Do you know the likelihood they will be in N Baffin Bay in 2022?*

*HEALY – N Baffin Bay in 2022 is unlikely. Ongoing discussions about where we will be in 2022.*

*Rob Sparrock – Is there a plan for any changes to propulsion given that there may not be additional spares for the motor?*

*HEALY – Yes, we are looking at what to do with the motor. It is being sent back to manufacturer in England. They are looking at repairing it and using it as a spare. Maintenance Command is looking at how to prevent this happening to #2 and how to get a spare ready to go.*

*HEALY – Ship is developing a midlife type of availability. Do not have a timeline at this point. It is in the works. Lots of obsolete and out of date systems.*

*Doug Russell – Safe voyage*

## **0840 Engineering Update - LCDR Mathew Stevick**

### **AICC Issues**

#### **Technical**

### **0845 Bow Tower Discussion - Ola Persson**

*Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>*

- Examination of Bow Masts and Instrumentation on Research Icebreakers and Ships
- Making over-ocean atmospheric, ice and upper ocean measurements from ships is
  - difficult to make accurately
  - Important to make accurately
- Flow distortion is one of the main problems

Questions:

*Ryan Young – Dave Forcucci and I have discussed this desire for better atmospheric measurements. We have written up a proposal to get a bow tower installed on the HEALY. We are working on it.*

*Ryan Young – Looking for a ship impact. Radiated heat flux and radiometer would be easy to install with little impact. We want this ship to stay relevant.*

*Sam Laney – I did ask Jeff and Ola to prepare a report on a bow tower on the Healy.*

*Ryan Young – I will make sure I get a copy of it and I will share the info with the engineering people.*

*Ola Persson – We have done testing with different radiometers at Barrow in winter conditions. We used one of the good ones during MOSAIC and it preformed well. I can share that information with you.*

*Doug Russell – Ola, I will send you Dave and Ryan’s email so you can get in touch with them.*

*Brendon Mendenhall – Regarding the angle of incidence for the instrument measuring the ice thickness. Does it have to be straight up and down?*

*Ola Persson – I do not have enough experience to speak to that. But it seemed that it was measuring straight below it. Location on icebreaker is also important.*

## **0900 SIKULIAQ Engineering Update - Doug Baird**

- The isolation mounts on the motor are so soft that they are starting to affect the drive shaft.
  - Also the isolation mounts on the generators are so soft and pliable that the engines are moving too much.
  - Something we will have to pay attention to for the life of the ship.
- I have 11 days in June if anyone wants some uw time.

## **Outreach / Relations - Chief Scientist / Community**

### **0915 Relations Working Group - Laurie Juranek**

*Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>*

*Sam Laney – Second working group we set up this year. This is part of our job at the AICC. I asked them to go collect some information to teach us in these areas. I asked them to reach out to the greater community of scientists for best practices.*

- AICC Working Group on PI Outreach to Alaska Native Communities
- To help AICC fulfill relevant mandates in charter.
- Survey – Synthesize Feedback – Draft Report
- CECSOP <https://www.arcticwaterways.org/safety-plan.html>

*Questions:*

*Sam Laney – Glad you took into consideration the point of view of new scientists. Appreciate the perspective of what we should be doing and how we should be operating in the future.*

*Sarah Kaye – Wondering how this will apply to our upcoming cruise through the Canadian Arctic where we don’t have the communication lines set up.*

*Laurie Juranek – Great question. Maybe we should discuss at cruise planning meeting.*

*Lee Cooper – Recommend some links get built to Arctic Net or Amazon Science. AEWG meeting next week. There is a process for foreign ships to communicate with the local people.*

*Laurie Juranek – We didn’t want to take the position that AICC take up all of the work. Many people working on these situations and we want to encourage collaboration.*

*Kaare Sikuaq Erickson – Is there any plan to get any input from individuals in the community? Village fatigue might be more of a variable across the communities. Would be interested to get some feedback from individuals in the communities.*

*Laurie Juranek – I have been thinking about that more and more. Our specific charge was to get feedback from the PIs, but I do think it would be important to get feedback from the communities. Maybe we could talk about that together.*

*Sam Laney – This is not a one and done. We are open to keep this working group open and keep working on these issues.*

*Kaare Sikuaq Erickson – NSF has done a lot of work to lead the effort on this. It might be part of the problem that we multiple liaisons for multiple agencies. If we could have one liaison for multiple agencies.*

*Frank Rack – Recognize that these discussions are going on at many different levels. Complex process that we are working to try to harmonize.*

*Renee Crain – There is a lot of effort. People are working on new ways to communicate Inter-Agency Arctic Research Community.*

*Carin Ashjian – No one has commented on your recommendation to have a trusted person that could work as a liaison. In the absence of anyone else AICC we would help. I think this a really important recommendation and I hope it doesn't get lost in the discussion. We need to figure out how to do that.*

*Sam Laney – We can't rely on necessarily having people on the AICC committee that have this knowledge and experience. Having a new ex-officio seat is definitely a possibility. I would like to see how we can accomplish that this year.*

*Sarah Kaye- Having onboard community members on the Healy has been very helpful.*

*Laurie Juranek – Completely agree that the community observers are really wonderful. Having them onboard has be wonderful. We need*

*Sam Laney – We need to keep this working group going.*

### **0930 Inuit Safety Arctic Icebreakers - Martin Robards**

*Slide Show found at: <https://www.unols.org/event/meeting/2021-aicc-winter-meeting>*

- Proactive Vessel Management – A collaborative approach for vessel traffic management
- Pilot Project in Cambridge Bay
  - Government initiated project to identify problems in waterways and how to solve them.
  - Victoria Island Waterways Safety Committee
  - People and caribou on the ice
  - Led to a Seasonal Notice to Mariners

*Questions:*

*Sam Laney – I really value these types of presentations. Helps us think about our neighbors and helps us expand our thinking.*

*Jeff Welker – thank you for your discussion. The example you shared with us are not necessarily intuitive to us. So, I really appreciate it. Animal data combined with hunter data is really value. I can envision the international community having more and more interest in research in the Cambridge Bay hub. That area is going to grow.*

*Martine Robards - There are already people within this group that can grow on existing relationships.*

*Ola Persson – I was glad you were able to open my thinking a little bit on ice breakers going through areas and the effect on the people and the animals.*

*An icebreaker going through is opening up an artificial lead. Has there been any thoughts to pontoon bridges to help people cross the leads that are open? We did that with MOSAIC. Has that been discussed at all?*

*Martin Robards – That has not been discussed. But I think the community would be very open to discussing that as a possibility.*

*Renee Crain – Are there things from the work you did in Canada that we might want to try in the US?*

*Martin Robards – It was very similar. I think it is more of a lesson that we can resolve these problems with the communities. A lot of discussion with the communities to avoid conflict. I do think with SeaMac and this group there is a lot of commonality. Having the Canadians present to your group would be really valuable.*

*Kaare Sikuaq Erickson – Looks like something that happened before the COVID. Have you continued these discussions with the locals after the COVID? How has it been working?*

*Martin Robards – It is not easy. Most of what we do is not their priority right now. It is just a really difficult time right now.*

*Kaare Sikuaq Erickson – Last observation, I have heard many references to Arctic Waterway Conference has been whittled away because the funding isn't there anymore. It has been very beneficial the last few years.*

*Martin Robards – I think there has been a lot of conversations about how to fill that gap with NSF and other agencies. I don't know what the correct answer is but I think something will come out.*

*Renee Crain – NSF is open to a proposal to have a workshop for the waterway's safety committee. It is hard to get new institution started, but we are happy to work with them. We would accept a proposal to reconvene. To discuss the future of the group. NSF is willing to support that.*

*Sam Laney – Thanks Renee. Thanks Martin. I am going to work with you after the meeting.*

### **Call for Any Additional Issues - Sam Laney**

- Spring Meeting. Please feel free to email me with any ideas for discussions for next meeting.
- Does anyone have items they think would work for our agenda in the next three months.

*Renee Crain - All things AICC? Sounds like there is some resolution needed for specific instruments needed on the HEALY.*

*Sam Laney - Community input to get answers by the end of the month.*

*Brendon Mendenhall – We will be very interested in the input.*

*Sam Laney – We are thinking expedient more than complicated.*

*Andrew Woogen – Couple times has come up about drones. I would be happy to talk to RVTEC about those capabilities.*

*Sam Laney – Drones have definitely come up on my email chain. Are you in a position to give a presentation at our next meeting?*

*Andrew Woogen – We are all cleared to pilot drones off our ships. Just started serving on the committee. Seems like that technology is advancing. I will be happy to share what I have learned.*

*Sam Laney – We will work on putting that on the agenda.*

*Jeff Welker – I would be a proponent of that. Asset that could be dramatically used in a greater way. We need to start thinking on the edges of the box with drones. There is a lot of room for creativity.*

*Sam Laney – Who else wants to part of this discussion? Jim Thomsom, Ola Persson, Brandon Mendenhall, Adam, Jeff Welker?*

*Jeff Welker – Helo decks on PSC, could open up science capabilities.*

*Frank Rack – Ensure we also look at SOP, environmental impacts.*

*Sam Laney – Feel free to email me for any other topics for next time.*

### **Action Item Review - Doug Russell**

1. USCG - provide PSC science capability updates at the AICC meeting
2. AICC - Recommendations for sonar upgrades on HEALY
3. Russell – provide SDN upgrades cost info for three AGOR-23 class Global research vessels to Sara Kaye, Frank Rack, and Ryan Young
4. Russell - Updating ListServs UNOLS
5. Laney / Russell / AICC - Topics for spring AICC meeting