

2023 Report of Working Group in Integrated Ecosystem Assessment for the Northern Bering Sea - Chukchi Sea

The joint PICES/ICES Working Group on the Integrated Ecosystem Assessment for the Northern Bering Sea - Chukchi Sea (WG 44) held two meetings in 2023—one virtual meeting on August 31 and one hybrid meeting on October 25 during PICES 2023 in Seattle. Thirteen members were present at the August virtual meeting and twelve members were present at the October hybrid meeting. There was one visitor during the October meeting (*Endnote 1*). Both meetings were chaired by Dr. Elizabeth (Libby) Logerwell (USA). After self-introductions, the meeting agendas were reviewed by members and adopted (*Endnote 2*).

AGENDA ITEM 3 (VIRTUAL MEETING)

Progress on 2023 Revised Work Plan

The chair reminded WG members that the Work Plan and Terms of Reference were revised (and approved) in Spring 2023 (*Endnotes 3 and 4*). The PICES Secretariat reminded the Chair and WG members that the WG tenure would end in Fall 2023 with one year hence to submit the Final Report. The Chair requested that members send references for linkages in the conceptual models in support of the Final Deliverable in the revised Terms of Reference (*Endnote 4*). Sarah Wise presented an update on the work of her team on “Including multiple ways of knowing” including the PICES 2023 workshop.

AGENDA ITEM 4 (VIRTUAL MEETING)

Requests for Science Board recommendation

There were no proposals for new Expert Groups nor requests for travel support or events.

AGENDA ITEM 5 (VIRTUAL MEETING)

Plan for PICES 2023 WG meeting

The Chair requested that by the PICES 2023 meeting, the key linkages (annotated with references) for each conceptual will have been identified. WG members decided that the meeting would be used for writing and making the results more concrete. It was noted that several WG members will not be able to attend PICES 2023 due to travel restrictions.

AGENDA ITEM 3 (HYBRID MEETING)

Progress on Multiple Ways of Knowing

Sarah Wise gave an update on the activities of her team (Raychelle Daniel, Henry Huntington, Rebecca Ingram, Mellissa Maktuayaq Johnson, Nadja Steiner, and Eduard Zdor) working on issues around multiple ways of knowing the NBS-CS ecosystem. The group’s overarching goal is to examine EBM goals and targets in a way that bridges multiple knowledge systems. This allows for broader representative goals and understanding and greater inclusion of meanings. Through a series of workshops, including one held at PICES 2023, Wise’s team along with indigenous, management and science partners, have conducted institutional mapping of the NBS-CS ecosystem that illustrates the relationship between humans, institutions, and the ecosystem. Key ideas emerging from the team’s work are a need for more Indigenous-led work, a call for more focus on relationships and relationship-building, addressing the issue of data sovereignty, a need for building capacity, and the requirement that future work should include leveraging examples of existing strong partnerships and engagement.

AGENDA ITEM 4 (HYBRID MEETING)

Update on AP-ARC

The chair gave an update on the proposed new Advisory Panel on Arctic Issues. WG members expressed interest in recruiting a co-chair with expertise in social sciences. WG members asked how this AP would

overlap with other Arctic organizations such as the Arctic Council AMAP Working Group and the Pacific Arctic Group.

AGENDA ITEM 5 (HYBRID MEETING)

Update on timeline, Final Report deadline

The chair reminded members that the WG's tenure will end at this meeting and that the Final Report will be due in one year (at PICES 2024).

AGENDA ITEM 7 (HYBRID MEETING)

Finalize conceptual models, key linkages and references

WG members discussed the current status of the conceptual models and plans for finalizing them and preparing the Final Report. It was noted that the Ecological model is contained within the Climate-Fisheries model, so a separate effort to finalize the former model and provide key linkages and references is not needed. Members discussed the idea of integrating all the models into one comprehensive model and then examining specific interactions from the two perspectives (climate-fisheries and subsistence-food security).

WG members expressed interest in publishing a paper on the network mapping. Kirstin Holsman will organize bi-weekly meetings with interested members to get the paper off the ground. There is a need to identify a group ready to start working on the analyses for the paper. This core group will lead/work on the manuscript and evaluate confidence in the interactions that have been identified.

Kirstin Holsman gave an overview of Calibrated Confidence Language. The process provides guidance on agreement and confidence when working on multiple knowledge sources (including lived experience and Indigenous knowledge). The process combines confidence and documented relationships. For example, you may know there is a link between two things, but don't have much confidence or you may know of a strong documented relationship between two things.

AGENDA ITEM 8 (HYBRID MEETING)

Open journaling or breakout groups to start drafting Final Report/Journal paper

The WG agreed that the chair (Logerwell) will create a rough draft/outline of the Final Report, establish a timeline of milestones towards completing the report, and identify WG members for specific action items (e.g., drafting text, preparing figures, assembling references). WG members were reminded of the key deliverables from the revised ToR (*Endnote 4*): metadata on data sources and institutions (completed); ecosystem descriptions (conceptual models); knowledge gaps; and next steps.

WG44 Endnote 1

August 2023 WG44 participation list

Members

Libby Logerwell (USA, Co-Chair)
 Yury Zuenko (Russia, Co-Chair)
 Andrea Niemi (Canada)
 Nadja Steiner (Canada)
 Changan Xu (China)
 Lee Cooper (USA)
 Takafumi Hirata (Japan)
 Shigeto Nishino (Japan)
 Hyoung Sul La (Korea)
 Matthew Baker (USA)
 Lisa Eisner (USA)
 Henry Huntington (USA)

Jamal Moss (USA)

Sarah Wise (USA)

Members unable to attend

China: Zhongyong Gao, Qi Shu
 Japan: Kohei Matsuno, Yutaka Watanuki
 Russia: Kirill Kivva, Aleksei Somov
 USA: Raychelle Daniel, Megan Ferguson, Kirstin
 Holsman, Katrin Iken, Mellisa Maktuayaq
 Johnson, Kathy Kuletz, Diana Stram

Observers

Kim Rand

October 2023 WG44 Meeting Participation list

Members

In person:

Libby Logerwell (USA, Co-Chair)
 Changan Xu (China)
 Matthew Baker (USA)
 Lee Cooper (USA)
 Kirstin Holsman (USA)
 Sarah Wise (USA)

Virtual:

Nadja Steiner (Canada)
 Hyoung Sul La (Korea)
 Kathy Kuletz (USA)
 Jamal Moss (USA)

Members unable to attend

Canada: Andrea Niemi
 China: Zhongyong Gao, Qi Shu
 Japan: Takafumi Hirata, Kohei Matsuno, Shigeto
 Nishino, Yutaka Watanuki
 Russia: Yury Zuenko, Kirill Kivva, Aleksei Somov
 USA: Raychelle Daniel, Lisa Eisner, Megan
 Ferguson, Henry Huntington, Katrin Iken, Mellisa
 Maktuayaq Johnson, Diana Stram

Observers

In person: Jackie Grebmeier

Virtual: Kim Rand

WG44 Endnote 2**WG 44 meeting agendas**

INTEGRATED ECOSYSTEM ASSESSMENT OF THE NORTHERN BERING SEA – CHUKCHI SEA (NBS-CS) (WG 44)

WORKING GROUP MEETING

AUGUST 31, 2023 15:00-16:00 PACIFIC DAYLIGHT TIME (UTC-7)

ZOOM MEETING

[HTTPS://US02WEB.ZOOM.US/J/5130095105](https://us02web.zoom.us/j/5130095105)

Chair: Libby Logerwell

Rapporteur: Kim Rand

Topic	Start time	minutes
Welcome, adoption of agenda, appointment of rapporteur	1500	5
Introduce ourselves and guests	1505	10
Progress on 2023 REVISED Work Plan	1515	15
Requests for Science Board recommendation (new EG, travel support, events, etc.)	1530	10
Plan for PICES2023 WG meeting (25 October 9:00-17:30)	1540	20

INTEGRATED ECOSYSTEM ASSESSMENT OF THE NORTHERN BERING SEA – CHUKCHI SEA (NBS-CS) (WG 44)

WORKING GROUP MEETING

WEDNESDAY OCTOBER 25, 2023 09:00-17:30 PACIFIC DAYLIGHT TIME (UTC-7)

HYBRID MEETING

IN PERSON: WESTIN SEATTLE ROOM VASHON II

ZOOM: [HTTPS://US02WEB.ZOOM.US/J/5437544800](https://us02web.zoom.us/j/5437544800)

Chair: Libby Logerwell

Rapporteur: Matt Baker and Jamal Moss

	Duration	Time finish
Welcome, adoption of agenda, appointment of rapporteur	:05	9:05
Introduce ourselves and guests	:25	9:30
Progress on Multiple Ways of Knowing (Wise)	:20	9:50
Update on AP-ARC (Logerwell)	:10	10:00
Update on timeline, Final Report deadline (Logerwell)	:15	10:15
Conceptual Models, key linkages and references (Logerwell and/or Rand)		
Google Link HERE	:30	10:45
Plan for today	:15	11:00
Break (start at 10:30)	:15	11:15
Finalize conceptual models, key linkages, and references	1:00	12:15
Lunch (12:30-14:00)	1:45	14:00
Open journaling or breakout groups to start drafting Final Report/Journal paper		
<ul style="list-style-type: none"> ● Identify key linkages for the Ecological model (all) ● Calibrated confidence language (Kirstin) ● Visualizations for simplified models ● Identify gaps (all) ● Examples of strong partnerships (Sarah) 	3:00	17:00
Wrap up	:30	17:30

WG44 Endnote 3

Integrated Ecosystem Assessment of the Northern Bering Sea – Chukchi Sea (NBS-CS) (WG 44)

2022-2023

WORK PLAN

2023-02-10 REVISION

1. Determine approach and methodology for conducting an IEA in the Northern Bering – Chukchi Sea LME. Develop conceptual model(s).
 - a. Activities
 - i. Identify participants in and beneficiaries of IEA activities and products
 - ii. Identify goals for the regional IEA
 - iii. April 2023 Intersessional workshop (virtual). Open journaling to outline PICES Press Article
 - iv. Individual WG members draft section(s) of Article
 - v. October PICES 2023 meeting: Report on draft of PICES Press Article on conceptual model process and products. Brainstorming contributions to NPRB NBS IERP call for proposals.
 - b. Deliverable(s):
 - i. PICES Press Article (and journal article?). Fall 2024
 - ii. Contribution to NPRB NBS call. TBD (depending on NPRB deadlines)
 - c. WG member leads: Moss, Logerwell, Wise
2. Including multiple ways of knowing the ecosystem
 - a. Activities
 - i. Indigenous Conceptual Model workshop (September 2022)

- ii. PICES 2023 workshop - [Indigenous and community-led approaches to support climate change adaptation and ecosystem resilience in the North Pacific and Arctic \(W9\)](#)
 - b. Deliverable(s) and target dates:
 - i. Drafted Elements of Indigenous Conceptual Model (October 2022)
 - ii. Final Elements of Indigenous Conceptual Model (Fall 2023)
 - iii. PICES 2023 workshop plans (~~Spring~~ Fall 2023)
 - c. WG member leads: Wise, Daniel, Huntington, Johnson
3. Provide guidance document(s) for future WGs (PICES, ICES, PAME, etc.) to create an IEA product for the NBS-CS. Fall 2024

WG44 Endnote 4

WG44 REVISED Terms of Reference

Year 1 Deliverables:

- Inventory of metadata, knowledge, institutions, and programs relevant to the Northern Bering Sea - Chukchi Sea LME. (accomplished)

Final Deliverables:

- Ecosystem description from both Indigenous world views and science (shared conceptual models), indicators, and hypotheses. PICES Report and/or Journal article. Knowledge Gap and Next Steps Report. PICES Report and/or Journal article.