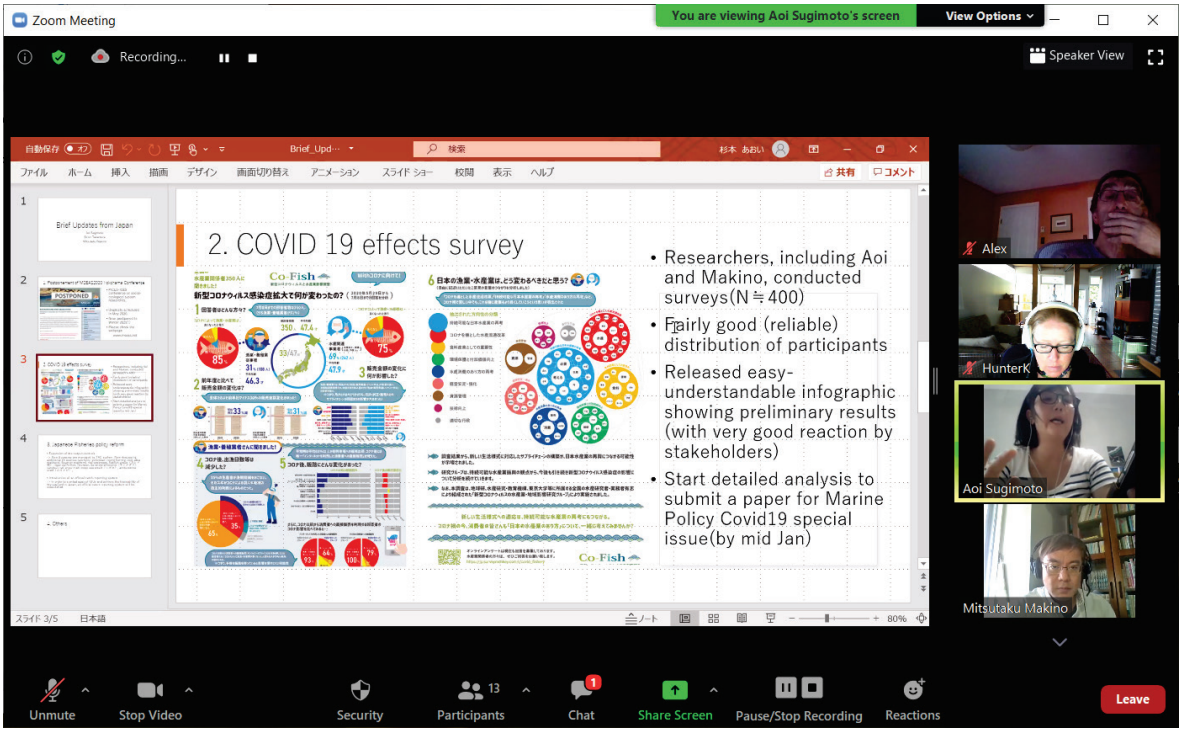
Report of the Human Dimensions Committee

The Human Dimensions Committee (HD) meeting took place from 15:30–18:30 h, September 21 and 22, Pacific Time (Victoria, BC, Canada). The meeting was organized using Zoom, under the chairmanship of Prof. Mitsutaku Makino (Japan). Dr. Karen Hunter (Canada; Vice-Chair) acted as rapporteur. Fourteen Committee members and 5 guests attended the meeting (*HD Endnote 1*). The agenda was reviewed and revised by the Committee, and adopted (*HD Endnote 2*).



Agenda Item 3
Reconfirmation of our task

How HD works in PICES and what we are expected to contribute

Some Committee members are very new and not familiar with how Science Board supports committees or how decisions are made. Dr. Makino introduced how the HD Committee works in PICES and what members are expected to contribute. Information on the history of PICES as an intergovernmental organization, PICES structure, role of Governing Council, Science Board, Committees, Expert Groups, *etc.* was shared. Based on the PICES Rules of Procedure 13, the role of the Scientific Committee was introduced. Finally, the tasks of HD were recognized as follows:

- Interdisciplinary research, interrelationships between ecosystems and people, methodological and empirical challenges, exploration of development pathways;
- Support work of other working groups;
- How biosphysical changes impact communities, economics, values with a close link to PICES FUTURE program;
- Interactions with HD groups in ICES and IMBeR;
    - ICES – Strategic Initiative on the HD (SIHD) Alan Haynie lead, (working groups associated with: WGBESEO, WGECON, WGSOCIAL) (balancing objectives WG sounds very interesting).

HD also discussed the UN Decade of Ocean Science for Sustainable Development, especially, how HD was going to contribute to and enjoy this decade, how we intend to interact with ICES and IMBeR, *etc*. The Strategic Initiative on the Human Dimension (SIHD) is our ICES counterpart (Dr. Alan Haynie is Chair), and Zoom conversations are conducted monthly between Drs. Makino and Haynie.

AGENDA ITEM 4
Report from Science Board

Dr. Makino informed the Committee that the bi-annual meeting agenda of Science Board meetings cover many topics. This year, Annual and ISB meetings are conducted online. Dr. Vera Trainer (SB Chair) introduced the brief outcomes from the last ISB meeting in April, as follows:

- A slide on PICES carbon savings – through virtual meetings.
- An Early Career Ocean Professional (ECOP) workshop to be held on October 16. Dr. Aoi Sugimoto is a co-convenor. (Early career professionals (ECOP) should be invited.)
- A survey was conducted of early career scientists to help shape their needs in PICES, and new study group will be proposed. (Invite ECOP members later to Communications SG.)
- PICES is unique, so how do we enhance our collaborations. Funding (UNDOS?) may come available to support this activity:
  - Many PICES working groups intersect with UNDOS goals.
  - Where does HD fit in on this – greatest influence??

AGENDA ITEM 5
Reports from HD-parented expert groups

a. Working Group 41 on *Marine Ecosystem Services*

A brief report was presented by Dr. Dan Lew, a Co-Chair of WG41, as follows:

- Projects include a review of MES (What are they? Nature benefits, *etc*. and how are they studied/measured *etc*.?; a report is forthcoming, including a case study on aquaculture to compare across PICES member countries, and a survey in PICES countries of how people view MES and MES value information (a sense is that there are setbacks; may happen for a country or two).
- A 1-year extension requested in 2019, but deferred to 2020 [subsequently approved by SB/GC at PICES-2020].
- Timeline for producing a final report incorporates the additional year's extension.
  - Plan to use PICES-2021 to communicate products from the group through a series of presentations at the next Annual Meeting.
  - A review paper to be published in a peer reviewed journal or PICES Press. There could be directions: enhancing PICES involvement to better understand MES generally, and trying to coordinate cross-country MES information. Intergovernmental organizations in Europe, IPBES? MES approach is being looked at in other places, but common ground is needed.

b. WG 44 on Joint PICES/ICES Working Group on *Integrated Ecosystem Assessment for the Northern Bering Sea-Chukchi Sea*

A report from WG 44 was presented by Dr. Elizabeth Logerwell, as follows:

- Workplan for conducting an IEA in the Northern Bering – Chukchi Sea includes some TORs that have been prepared.
- A 1-year extension of the lifespan was requested (approved by the Committee).
- One additional member from Japan, Kohei Matsuno of Hokkaido University, was requested (and approved by the Committee).
- Half-day workshop for PICES-2021 (approved by the Committee).
- Develop Indigenous knowledge sharing – adapting and integrated in every step (has specific TOR).

- MetaData – google form to compile data in area of interest is partially complete.
- Looking for a centralized web presence/communication platform for the project.
- Indigenous knowledge – HD to make a recommendation to Science Board for WG 44 to increase project membership with specific focus on Indigenous knowledge and participation, especially from Canada.
- Communicating with ICES – IEA WG is not bringing jn other countries.

AGENDA ITEM 6

Review of the final version of NPESR3

The North Pacific Ecosystem Status Report is the flagship publication of PICES. Prof. Makino updated the reviewing and publication processes of NPESR3. The report contains a draft HD chapter, and comments have been provided by some members back to Dr. Criddle. Russia recommitted to submitting a contribution. Contribution from China has not been submitted.

AGENDA ITEM 7

Updates of recent HD-related activities or issues from each member country

Canada

Dr. Hunter presented the recent Canadian activities such as the impact assessment of fisheries activities, an international comparative study of MPA planning using text analysis, recognition of the climate change effects to the fisheries in British Columbia, *etc*.

China

Prof. Jingmei Li presented a Chinese study on the evaluation of marine ecosystem services in the coastal areas of China. Aquaculture is an important type of marine ecosystem service, and influences on biodiversity should be taken into account.

Japan

Dr. Sugimoto Aoi and Prof. Makino presented recent Japanese activities such as the postponement of the PICES-ICES Conference on Marine Social Ecological System studies, MSEAS to December 2021, the impact of COVID-19 on Japanese fisheries, changes of fisheries management policies, *etc*.

Korea

Prof. Jongseong Ryu introduced the recent activities in Korea, including the fishing vessel reduction (126 vessels), renewable energy policy, marine spatial planning, *etc*.

Russia

Ms. Ekaterina Kurilova discussed how COVID-19 was influencing the Russian fisheries, such as production, demand, processing, *etc*. She also provided information about the various supports from the government.

USA

Dr. Sarah Wise made presentation about the influences of COVID-19 on US fisheries, disaster events and social well-being and resilience, integration of multiple knowledge systems, health conditions in fishing industry, *etc*.

AGENDA ITEM 8
Plan for 2021

a. Updates from FUTRE SSC

Prof. Makino shared the discussions held at the FUTURE SSC meeting, including:

- Focus of the program on a PICES social–ecological–environmental system (SEES) framework (Bograd *et al*.; 2019, *Frontiers in Marine Science* 6(333));
- Linking SEES to the UN Decade of Ocean Science (UNDOS) Implementation Plan – tied to funding for UNDOS?
- Uniqueness of the North Pacific was identified by UNDOS – focus on these unique features in the new PICES FUTURE program:
  - Joint ICES-PICES approach – a joint letter was sent to UNDOS; new network will be established,
    - A new ICES-PICES study group will be formed on UNDOS,
    - Link objectives of work to desired societal outcomes for the ocean (UNDOS described these and links them to SDGs),
    - Integration of social sciences will be essential to meet the goals of UNDOS,
    - PICES is expected to lead UNDOS in North Pacific.
      - ✧ How can HD Committee make contribution or facilitate collaborations?

b. Topic session proposals for PICES-2021

Prof. Makino informed members that Topic Session 3 on "*How the studies on human dimensions can contribute to meet the 7 societal needs of the Decade of Ocean Science?*", postponed from PICES-2021, will be resubmitted for PICES-2021. The HD Committee supported this resubmission. Any additional proposals for topic sessions will be due by October 7 for submission to Science Board.

c. New Expert Group proposals:

- A joint PICES/ICES Study Group on UNDOS (reported by Dr. Vera Trainer);
- SG on COVID-19 (reported by Dr. Hunter on behalf of Dr. Keith Criddle; *HD Endnote 3*)
  - States experiencing HD issues, COVID may be temporary but have an impact at the local, state and government level, and there are discussions on how COVID impacts ocean economies. More interestingly, how coastal communities react to strong external/ocean-related stressors more broadly might be worth exploring as a potential topic. HD has typically focused on fisheries (and is again for COVID). Dr. Hunter will draft SG proposal and share with the Committee for feedback as soon as possible.
- WG on Communication (reported by Dr. Sugimoto; *HD Endnote 4*)
  - Focus: Science about science communications, social impact of science communications, improvement of communications across other science organizations and pubic-friendly websites, training for ECOPs,
  - Discussion of WG vs SG: Dr. Sugimoto is promoting a WG because of the very strong interest and need for research in this area. The HD Committee supports the WG proposal.

d. Plan of a new joint study: PICES network analysis (reported by Dr. Shion Takemura)

  - Dr. Takemura reported on a new HD project proposal to assess the change in PICES science activity over time, and how HD science is incorporated into the network of collaborators and science outputs. Dr. Takemura requested Committee members to provide feedback to him as soon as possible.

AGENDA ITEM 9
New ideas and possible future collaborations amongst HD members

There was no time to discuss this agenda item; however, several new collaborations regarding new expert groups were discussed (see Agenda Item 8).

AGENDA ITEM 10
Other

Prof. Makino shared information about a new PICES-MAFF project on Ciguatera Fish Poisoning (https://meetings.pices.int/projects/Ciguatera).

HD Endnote 1

HD participation list

Members

Mitsutaku Makino (Japan, Chair)
Karen Hunter (Canada, Vice-Chair)
Natalie Ban (Canada)
Jingmei Li (China)
Shion Takemura (Japan)
Aoi Sugimoto (Japan)
Do-Hoon Kim (Korea)
Suk Jae Kwon (Korea)
Jongseong Ryu (Korea)
Oleg Katugin (Russia)
Ekaterina Kurilova (Russia)
Anna Skvortsova (Russia)
Minling Pan (USA)
Sarah Wise, representing Ron Felthoven (USA)

Members unable to attend

China: Shang Sunny Chen, Yang Hen
USA: Keith Criddle, Ron Felthoven

Observers

Dan Lew (USA, WG 41 Co-Chair)
Libby Logerwell (USA, WG 44 Co-Chair)

PICES

Vera Trainer (Science Board Chair)
Harold (Hal) Batchelder (Deputy Executive Secretary)
Alex Bychkov (past Executive Secretary)

HD Endnote 2

HD meeting agenda

1. Self-introductions (All)
2. Adoption of the agenda and appointment of rapporteur (All)
3. Reconfirmation of our task (Makino and Hunter)
4. Report from SB (Makino)
5. Reports from HD-parented expert groups (WG 41, WG 44)
6. Review of the final version of NPESR3 (Makino and all)
7. Updates of recent HD-related activities or issues from each member country
8. Plan for 2021 onward
   - FUTURE SSC Report
   - Topic session/WS proposals for the next Annual Meeting 2021 (UNDOS, MES: WG 41, etc.)
   - New expert group proposals (COVID-19, Communication)
   - Plan of a new joint study: PICES network analysis
9. New ideas and possible future collaborations amongst HD members
10. Others (PICES-MAFF Project report)

HD Endnote 3

Proposal for a Study Group on
"Improving ocean outcomes: Coastal community feedback to external ocean stressors"

Preamble

The UN Decade of Ocean Science for Sustainable Development (UNDOS) presents a once-in-a-lifetime opportunity to focus on the interconnection between ocean science and human objectives related to the Ocean. Understanding the responses and adaptation of coastal communities to external stressors (local, regional and global) affecting coastal areas is key to our ability to meet UNDOS outcomes around the world.

Coastal communities experience the Ocean in unique ways and contribute to their coastline in distinctive ways. Coastlines are linked through these experiences and contributions resulting in collective benefits to human well-being (social, cultural, economic) across space and time. Coastal communities are also vulnerable to localized, external stressors (natural and human-oriented) and may frequently experience impacts that jeopardize valued ocean-generated benefits in a place. Global stressors add to the vulnerability of coastal communities. However, appreciation for and dependence on the Ocean means that the dimensions of coastal communities' capacity for responding and adapting to change are broad.

The global experiences of COVID-19 and climate change, and local or regional effects from extreme weather events, marine heat waves, significant pollution events and major ocean policy change constitute key stressors affecting human use and enjoyment of the ocean (+ive or –ive). There is an opportunity and need to study the responses of human communities to short and long term external stressors (acute or directional) to support positive ocean-based outcomes across space and over time.

SG Questions

Our Study Group wishes to address the following questions:
1. How do coastal communities respond or adapt to specific external stressors?
2. Are responses or adaptations similar across different stressors?
3. Does knowing best practices in coastal community responses and adaptation help integrate the impacts of external stressors in Ocean policy, management, and science assessment?
4. Do responses and adaptations of coastal communities to external stressors address/resolve UNDOS outcomes? (a clean ocean, a healthy and resilient ocean, a predictable ocean, a safe ocean, a sustainably harvested and productive ocean, a transparent ocean).

Terms of Reference

1. Determine a suite of ocean-related stressors known to impact coastal communities (*i.e.*, COVID, climate, HABs, hurricanes, marine heat waves, *etc.*);
2. Develop a suite of existing coastal community responses (CCR) linked to the suite of ocean-related stressors for stressors occurring in PICES countries;
3. Create an annotated bibliography of research/case studies on stressors and related CCRs in PICES countries.

A WG would then be able to use a case-study approach to explore questions with the 'data set' built by the Study Group. Could we answer: What are community best practices in response to ocean-related stressors? Do best practices support UNDOS outcomes? How? See example below.

Stressor: HABs	Impacts	Community Responses	UNDOS Outcome from responses
A coastal community in Oregon, USA, experiences a very large HAB with impacts to near-shore areas	Beaches are too dangerous to swim, smelly, fish die, *etc*.	1. They respond by closing beaches, setting up scientific monitoring stations, educate public about HABs. 2. These responses result in increased community knowledge of HABs, increased science monitoring of local habitats, decreased enjoyment/ use of local recreational areas.	A cleaner ocean (*etc*.)

HD Endnote 4

Proposal for a Working Group on "Science Communications"

As the first World Ocean Assessment of the United Nations stated in 2016, "humankind was running out of time to start managing the ocean sustainably." Acknowledging this critical time, the UN Decade of Ocean Science (UNDOS) has been proposed as a framework to promote transformative change toward more sustainably managing our oceans. Transformative change will require that ocean scientists improve communication, to better engage stakeholders and the public in a process of co-design and knowledge-sharing, to move society towards a sustainable future.

The PICES Science Communication Working Group (hereinafter, WG-Communication) aims to develop the communication capacity of PICES ocean scientists by learning, through collaboration with communication specialists, and by developing a suite of tools to assist scientists with better communicating their scientific results. It further aims to raise awareness of PICES science through increased and better communication with society at large, helping ensure greater support and broader uptake of PICES science in general.

Terms of Reference

1. Empower PICES scientists and the broader PICES community, by helping to provide the tools and skills required to more effectively communicate the importance of PICES scientific findings, with the aim of collectively improving ocean sustainability.
2. Enhance broader communication of PICES sciences, especially within the context of the UN Ocean Decade, by broadening the scope of its scientific community to include communication specialists (*e.g*., designers, journalists, artists, educators, *etc*.) and policy makers.

Expected Deliverables

1. Establish international transdisciplinary projects with sufficient funding to enhance communication capacity of PICES scientists.
2. Collaborate with PICES office with reviewing current PICES Science Plans and priority areas, to determine a long-term PICES Communication Strategy and an Implementation Plan for PICES Science priorities, within the context of the UN Decade for Ocean Science.
3. Collaborate with PICES office with developing a "public-friendly" PICES website (including any other online means).

Suggested Membership

Canada: TBD
China: TBD
Japan: Aoi Sugimoto, Mitsutaku Makino, Eisuke Tachikawa (Strategic designer, NOSIGNER)
Korea: TBD
Russia: TBD
USA: Erin Satterthwaite (NCEAS & Future Earth), Paul Hillman (Videographer, NOAA), Vera Trainer
PICES Secretariat: Lori Waters