

## 2024 Report of Exploring Human Networks to Power Sustainability (WG 51)

WG 51 held four online meetings in 2024 including a pre-PICES business meeting and hosted W3 at PICES AGM 2024. All meetings and workshops were co-chaired by Dr. Shion Takemura (Japan) and Karen Hunter (Canada).

Online Meetings centred around ToR 1 and 2 to finalize data inputs for the methodology and run code to analyse the inputs. Throughout our discussions, we resolved our data input issues (meeting notes detail these) and were successful in running R-code for three sets of data (Japan, Canada, USA) prior to the PICES AGM 2024 workshop organized by WG51.

### A. ONLINE MEETINGS

#### Online Meeting 2

On April 16, 2024, WG51 held an online meeting chaired by the co-chairs. Participants are listed in *WG51 Endnote 1*.

See DATA Repo WG51-TOR1-Table:

<https://docs.google.com/spreadsheets/d/1A1NjBgPj8EyWQJVCpOiFvkjoGuuguXnY/edit?usp=sharing&ouid=100193813967045477299&rtpof=true&sd=true>

#### Item 1 Introduction

Dr. Takemura gave a few introductory slides about the working group methods, members, goals, and activities.

#### Item 2 Country report on ToR1 (China, Korea, USA)

##### China

Dr. Takemura will follow up with a member directly to request access to or a copy of the data/repository.

##### Canada

Ms. Hunter has contacted the DFO Library to request a longer time-series of publications and potentially a more comprehensive one. Ms. Hunter will follow up with news from the library. If she is unable to access the additional information, she will begin to amalgamate online data sources from the DFO website.

##### Korea

Dr. Lee questioned whether fisheries or oceanography work included. WG members agreed to to be as comprehensive as possible to include representation across PICES focal areas. We can always choose specific focal areas later. Dr. Takemura will follow up with a member directly to request access to or a copy of the data/repository.

##### USA

Dr. Takemura will follow up with a member directly to request access to or a copy of the data/repository. Ms. Hunter asked for clarification on the studied time period. WG members suggested and agreed that 1990 is a reasonable starting year, justified by the PICES organization timeline of existence and an ability to compare outputs from WG51 to PICES outputs (Takemura et al., in preparation).

#### Item 3

#### A) ToR1 report (WG51-ToR1-Table)

- Dr. Takemura requested members fill out this table to the best of their ability.
- Ms. Hunter raised questions about whether the spreadsheet is currently clear enough for data entry and future users and if it will capture the available metadata accurately. For example, in draft version, we wouldn't be able to discern metadata for various publication types. Mr. Roman suggested expanding columns for each country to deal with this, but questions remain about what metadata are necessary for this product to be sufficiently useful for WG51 and in the future.
  - Dr. Takemura: to send the spreadsheet directly to WG51 Chinese members (Prof. Cao)
  - Dr Takemura/Ms. Hunter: to contact Russian members on HD Committee who are interested in WG51 (Ekaterina and Oleg) directly, cc to Prof. Makino
- Ms. Hunter raised an additional question that we did not have time to address: If the publication information source is NOT in an online repository, what do we do?
- Mr. Roman asked about gathering additional data points from PICES—the last study ended in 2019.
  - Dr. Takemura: to send Mr. Roman Google forms for data entering of PICES abstract books
  - Mr. Roman: to contact Dr. Chiba (PICES Secretariat) to get abstracts

#### B) Workshop in PICES2024

- WG members need to plan the workshop very carefully. Next meeting set up for May 6/7 to specifically address workshop planning.

#### Item 4

##### A) Report for PICES-ISB2024

- Dr. Takemura reported on the progress of drafting the ISB report.
  - Dr. Takemura: to submit a draft report to Dr. Chiba (PICES Secretariat)

##### B) Business meeting in PICES2024 (0.5 day)

- WG members agreed that no need for a business meeting – we can use workshop time.

#### **Appendix:**

**ACTION ITEMS** to be pursued before our next online meeting as much as possible - thank you in advance!

- o ALL Next meeting May 6/7 to specifically address workshop planning. Time is 5pm Victoria/9am Tokyo.
- o ALL Members to begin filling out the metadata table designed to capture all countries online publication repository information.

WG51-TOR1-Table:

<https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdocs.google.com%2Fspreadsheets%2Fd%2F1A1NjBgPj8EyWQJVCpOiFvkjoGuuguXnY%2Fedit%3Fusp%3Dsharing%26ouid%3D100193813967045477299%26trpof%3Dtrue%26sd%3Dtrue&data=05%7C02%7CKaren.Hunter%40dfo-mpo.gc.ca%7Cc19e1ec6fee74c8e8a9d08dc5f333793%7C1594fdaea1d94405915d011467234338%7C0%7C0%7C638489920790660483%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IklhaWwiLCJXVCi6Mn0%3D%7C0%7C%7C%7C&sdata=w%2BPp0%2FqGf7UYcwFSdwmSZbyJ4sViGPhULwvTAJ8fifw%3D&reserved=0>

- o Shion-san – WG51 Caoling not able to use Google docs so we need to email the spreadsheet directly.
- o Shion-san - Follow up with Caoling and Rachel directly about Chinese and US repositories/publication data
- o Karen to follow up with Canada/DFO Library. If no-go, then she will begin to amalgamate online data sources from the DFO website.

- o Lee-san will ask about data set availability and access in Korea for this study.
- o Shion-san/Karen: Russian members on HD Committee are interested in WG51 – Contact Ekaterina and Oleg directly, cc to Makino-san
- o Raphael-san to contact Sanae-san to get newest PICES abstract books.

Important notes from discussions:

We will include a broad set of ocean science research in this study. This is to reflect the scope and goals of PICES.

We will include publication data from 1990 onwards where possible.

### Online Meeting 3

On May 6/7, 2024, WG51 held an online meeting chaired by the co-chairs. Participants are listed in *WG51 Endnote 1*.

A second online meeting was held to focus attention on ToR1: Summarize data availability of the database for research activities in PICES nations. Participants reviewed action items and the data spreadsheet for WG members to complete before the meeting to highlight data sources (i.e., a scientific publication repository) and identify questions for discussion as part of their country report. The discussions in this meeting led to a shift in approach for the working group as it became clear that several countries did not maintain an accurate or complete repository of scientific publications produced from government-resourced marine science organizations. We explored other options in this meeting and came up with a set of action items to pursue with WG members' responsibilities identified for each. The meeting also included a discussion about workshop planning for PICES 2024.

### **Agenda item 1. Introduction**

Introduction of WG members and adoption of agenda.

### **Agenda item 2 - Country report on ToR1 (China, Korea, USA)**

- \* NOAA's repository is vast. There is considerable metadata. Mainly good for Federal articles, journals, less so for books, conferences papers. 2015 onwards.
- \* Korea has a repository for all Korean papers. Lee-san will need to do some work to sort out the comprehensive content that is in the database. Not all international journals are captured in the Korean dataset.
- \* Karen had a meeting with DFO librarian and will be able to provide metadata, but it is not located in a central repository.

Discussion of strategy for known missing articles in repositories:

- \* Missing articles from various repositories (e.g., Korea, Canada) can be captured by running a Web of Science search using keywords. We will need to determine what those keywords should be, but we can do that.

### **Agenda item 3**

- a) ToR reporting out

Outlining the WG51 Methodology clearly

- Action for a future meeting is to lay out how the data from various countries will be used, and how we will handle different language inputs/keywords/possible quantitative technical issues, etc.
- WG members need to know what format and what exactly they need to do to prepare data for Shion-san to run code
- For WG51 members, first, gather metadata from repository and download it so that Shion-san can run code to extract into .csv formatted into columns
- Metadata downloaded as a .csv is preferable. No need to locate pdfs.

- We need to be clear about keywords - are we translating English words used in our Takemura et al. PICES-focused research into other languages? NO – we are generating a new list!

b) PICES 2024 Workshop

We discussed whether we would invite a speaker – Karen + ECOP member - Raphael and Rachel  
Intersessional SB meeting will happen tomorrow - Makino-san will attend and share our choices.  
Preliminary analysis with repository data is planned.

#### **Agenda item 4 Others**

Link to ICES - Makino-san shared that they are interested in our work. ICES book of abstracts is already in Shion-san's computer.

#### **Appendix:**

##### **Action Items RUNNING LIST (newest to oldest)**

- \* Shion-san to share a recording of his PICES 2023 presentation on the HD committee's inaugural work that led to WG51.
- \* Karen will share her conversation with the DFO librarian with Shion-san
- \* Shion-san is finalizing code for country data analysis
- \* ALL Members to begin filling out the metadata table designed to capture all countries online publication repository information.
- \* GOOD PROGRESS. Next is preparing the downloaded metadata by end of June if possible.
- \* Dr. Cao has communicated that she will be able to submit Chinese metadata.
- \* Shion-san/Karen: Russian members on HD Committee are interested in WG51 – Contact Ekaterina and Oleg directly, cc to Makino-san Update: Oleg and Ekaterina will be seeking permissions to join WG51. DONE
- \* Raphael-san to contact Sanae-san to get newest PICES abstract books. Raphael-san and Shion-san will work together to integrate new PICES abstracts.

#### Online Meeting 4

On July 11, 2024, WG51 held an online meeting chaired by the co-chairs. Participants are listed in *WG51 Endnote 1*.

#### **Item1** Introduction

- Dr. Takemura proposed a draft agenda and the participants approved it.
- Ms. Hunter volunteered to take meeting notes.

#### **Item2** Design of text database for PICES member countries

##### **Action items completed since last meeting:**

- No longer using country publication repositories as there were too many differences in content to support a E-W Pacific comparison. However, the ToR1 table is an important result to understand the current situation. Input from China and Russia is expected.  
ToR1 Table:  
<https://docs.google.com/spreadsheets/d/1A1NjBgPj8EyWQJVCpOiFvkjoGuuguXnY/edit?usp=sharing&ouid=100193813967045477299&rtpof=true&sd=true>
- Dr. Takemura shared his video of the 2023 PICES presentation on the methodology.  
Video on GoogleDrive:  
[https://drive.google.com/file/d/1nVFBsxqm9t2crt12oXTsyFttPrA8xX0v/view?usp=share\\_link](https://drive.google.com/file/d/1nVFBsxqm9t2crt12oXTsyFttPrA8xX0v/view?usp=share_link)
- Dr. Takemura finished his code.  
GitLab repository:

[https://gitlab.com/shiontakemura\\_fra/pices-wg-51-text-analysis](https://gitlab.com/shiontakemura_fra/pices-wg-51-text-analysis)

- New Russian members (Ms. Ekaterina Kurilova and Dr. Oleg N. Katugin) to join WG51. The paperwork is currently being processed for official approval in PICES.
- Mr. Roman contacted PICES secretariat (Dr. Chiba) – He downloaded the Abstract books and found a solution to extract information from the PICES abstract books from 2020-2023 more quickly.
  - ICES is doing similar work – can we use Mr. Roman’s code?
  - Who can collate the ICES new data? Dr. Takemura to follow up on whether they can help.
  - ICES database team have finished compiling abstract text database of ICES Annual Science Conference (ASC) from the ICES repository. ICES Science Impact on Publications Group (SIPG) have conducted text analysis for ICES-ASC abstract database (1999-2019). SIPG plan to give a poster presentation at ICES Annual Science Conference 2024.
  - Dr. Takemura and Mr. Roman will follow up.
  - Dr. Takemura will share the ICES Abstract book with Mr. Roman.

#### a) Data source

- Dr. Takemura is working on an “instruction book” for countries to search in WOS (Web of Science) and generate a reliable list of science publications across fields relating to PICES.
- Canada – update that AFSA is not useful for Canada repository generation.
- Ms. Hunter can search WOS and is happy this suggestion seems to have resolved several other issues.
- Dr. Seary used WOS to search for NOAA.
  - Go into affiliations and find sub-affiliations by clicking on a question mark to identify all the different variations of the center’s names.
    - These procedures are hard. Dr. Takemura suggested that ZIPCODE might be effective in filtering data by utilizing WOS queries.
  - Question regarding what to include was answered with anything that PICES cares about.
- The group did some work live to discover WOS possibilities.

#### b) Target research institutions in PICES member states

- Participants discussed target research institutes.

MS	Target research institutions
CANADA	Fisheries and Oceans Canada (Pacific region), +α?
CHINA	
JAPAN	Japan Fisheries Research and Education Agency, +α? (JAMSTEC? NIES?)
KOREA	NIFS, KIOST
RUSSIA	
USA	National Oceanic and Atmospheric Administration (Alaska /Northwest /Southwest /Pacific Islands Science Fisheries Center)

#### **Item3** Program of Workshop (W3) at PICES2024

- Participants discussed the 2024 PICES workshop – draft agenda looks good.

#### **Tentative program of PICES2024-W3**

Date/Time	Draft agenda
AM	1 Introductory session: <ul style="list-style-type: none"> <li>1-a Introduction (Shion and Karen)</li> <li>1-b Case study 1: USA (Rachel)</li> <li>1-c Case study 2: CANADA (Raphael)</li> </ul>

	1-d Case study 3: JAPAN & ICES ASC (Shion and Makino) 1-e General Discussion
	Lunch
PM	2 Hands on session: 2a Running R code 2b Sharing preliminary analysis results (China, Korea, Russia) 3 WG51 Business meeting 3a Draft outline of WG51 paper (toward ICES JMC) 3b Draft workshop (W3) report

## **Appendix 1:**

### **New Action Items (July 11/12):**

1. Mr. Roman will finalize his R code to extract PDF metadata from the 2020-2023 PICES Abstract Books and integrate it back into the 1992-2019 excel database from Dr. Takemura. Mr. Roman will also upload his code on GitLab.
2. Dr. Takemura /Ms. Hunter need to follow up with China and Russia members to have their input into PICES-WG ToR1 Table and WOS search methodology.
3. Need to investigate Region/Country in WOS
4. ALL - Need to consider what national science entity can provide data related to ocean contaminants because of MEQ. USA and Canada have some intricacies to work around for this topic to be included. It may not be possible given the existing workload.
5. Dr. Seary to share R code error message with Dr. Takemura.
6. Continue working in WOS independently and share in email progress made in search efforts to inform Dr. Takemura's instruction book/play book for WG51 members

### **Appendix 2 Proposed Meeting schedules:**

- August/September (5th online meeting)

Agenda1: Progress of WG51 activities

Agenda2: Draft PICES2024-SB report

\*Agenda3: Draft proposal for Workshop/Topic session of PICES2025

<https://doodle.com/meeting/participate/id/b21mO5za>

- Late October (PICES2024-W3 & 6th meeting)

Agenda1: Workshop

\*Agenda2: Draft outline of WG51 paper

Agenda3: Draft workshop (W3) report

- December (7th online meeting)

Agenda1: Report of W3

Agenda2: Draft PICES2024 annual report

## **Online Meeting 5**

On August 21, 2024 a WG51 online meeting was held. Participants are listed in WG51 Endnote 1.

### **1. Introduction, adoption of the agenda**

- A) The agenda has been approved by all participants.
- B) Raphael volunteered to take meeting notes.

## 2. Progress of WG51 activities

Raphael hasn't yet completed his R code to extract the PDF data from the 2020-2023 PICES Abstract books. Progress has been made and he should be able to finalize everything in the next 2-3 weeks, including exporting a spreadsheet for the 2020-2023 text data and uploading his code to GitLab. He has successfully run Shion-san's code on his computer and will need to contact Karen to follow up on the Web of Science database for Canada.

- A) Shion-san cannot reach out to the prospective member from China and no feedback received from the Russian members. Shion-san and Karen will follow up with both.  
Makino-sensei will push for China and Russia membership for WG-51. Need some information from Shion-san and Karen and then Makino-sensei will send a direct request during 2024 SB meeting.
- B) Region/Country in Web of Science  
Definition of target research institutions in PICES member states: "a holistic science organization (central/governmental research agency) with a focus on the marine environment in each PICES member state".  
Will exclude some marine contaminants research in Canada and also remove National Institute Environmental Studies (NIES) from the list of targeted research institutions in Japan.  
**Canada:** Fisheries and Ocean Canada (Pacific region)  
**China:** (TBA, maybe SOA with FIO, SIO and TIO, and Chinese Academy of Science)  
Can contact Pengbin Wang from AP-ECOP to confirm target research institutions  
**Japan:** Japan Fisheries Research and Education Agency and JAMSTEC  
**Korea:** NIFS and KIOST  
**Russia:** TBA (TINRO Center and VNIRO?)  
**USA:** NOAA (Alaska/Northwest/ Southwest/Pacific Islands Science Fisheries Center)
- C) Rachel hasn't yet shared her **error message** with Shion-yet.
- D) **Web of Science work**  
No updates from Karen-san regarding WOS in Canada. Raphael will follow up with Karen on the progress made and the next steps.  
Japan and Korea have completed their work (i.e., downloaded WOS databases for FRA, NIFS, and KIOST). They removed content in Japanese and Korean and only retained English publications.

## 3. Draft proposal for joint ICES/PICES Topic session at PICES2025

- A) **Goal:** to re-build human networks to power sustainability around the globe
- B) **Objectives:** bring together researchers who are doing bibliometric analysis and interdisciplinary & transdisciplinary research. Convenors will discuss key questions with participants.
- C) Question about the overall goal of this joint project, e.g., instead of rebuilding, we could use strengthening and integrating PICES and ICES human networks and focus mainly on ICES and PICES. Shion will ask Karen, Rachel, and Raphael to suggest wording for the overall goal, objectives, and key questions.
- D) Co-sponsors would include ICES, and maybe FRA and AORI from Japan.
- E) PICES expert Group sponsors include WG-51, HD Committee, FUTURE, and SmartNet.
- F) Publication Journals (Special Issues): ICES JMS, Marine Policy or Nature Ocean Sustainability. Preference goes toward ICES JMS.
- G) Participants have approved submitting the proposal to PICES2024-SB.
- H) Shion and Karen will continue to discuss the goals, objectives, and questions of the proposal.
- I) Shion will start to communicate with PICES Secretariat about PICES/ICES Joint Topic Session on PICES2025.

## 4. Draft PICES2024-SB report

- A) Three activities and achievements related to ToR 1, 2, and 5
- B) Two membership requests: Ekaterina Kurilova and Oleg N. Katugin from Russia

- C) Shion-san will contact Prof. Cao (CHINA), and Ms. Kurilova and Dr. Katugin again to follow up.
- D) Shion and Karen will submit the report to PICES Secretariat.

## 5. Others

- A) Raphael - next online meeting before the PICES2024 Annual Meeting. Shion will discuss with Karen-san about holding the next online meeting.
- B) Prof. Lee - the need to learn how to use the R software before the workshop at the end of October. Shion says that it is not necessary to learn how to use the software, but it might be better to have the R software installed before the workshop. Shion will share online documents of installation of R Software.

## Appendix:

### Action Items (August 21/22):

1. Mr. Roman: to finalize everything in the next 2-3 weeks, including exporting a spreadsheet for the 2020-2023 text data and uploading his code to GitLab.
2. Mr. Roman: to contact Karen to follow up on the Web of Science database for Canada.
3. Dr. Takemura and Karen: to send information (i.e., current situations, tasks of WG51) to China and Russia members.
4. Prof. Makino: to send requests for China and Russia membership for WG-51 during PICES2024-SB online meeting.
5. Dr. Seary: to share the R code error message with Dr. Takemura. (Mr. Roman has successfully run Shion-san's GtLab Rcode on his computer).
6. ALL: to continue working in WOS independently and share progress made in search efforts to inform Dr. Takemura's instruction book/play book for WG51 members.
7. Dr. Takemura: to ask Ms. Hunter, Dr. Seary, and Mr. Roman to suggest wording for the PICES/ICES Joint Topic Session proposal.
8. Dr. Takemura and Ms. Hunter: to continue to discuss details for the goal, objectives, and questions of the proposal. Then, Dr. Takemura will start to communicate with PICES Secretariat about PICES/ICES Joint Topic Session on PICES2025.
9. Dr. Takemura and Ms. Hunter: to submit the report to PICES2024-SB through the PICES Secretariat.
10. Dr. Takemura: to share online documents of installation of R Software.

## NOTE:

Additional one-on-one meetings between Canadian WG members Karen Hunter and Raphael Roman with representative from Clarivate occurred to determine the best use of Clarivate products including InCites and WOS for WG51 input data. These discussions resolved all the country repository issues we had been having. It took some time across international borders to sort it out, but we persevered and achieved an efficient result. These data were input into Dr. Takemura's code for the country presentations and the hands-on session of the workshop (see below).

## **B. 2024 WORKSHOP**

### **WG 51 In Person Workshop at PICES AGM 2024 – Honolulu**

Date: October 27, 2024

A separate Workshop report is submitted to PICES.



**Program of PICES2024-W3**

Date/Time	Draft agenda
AM	1 Introductory session: 1-a Introduction (Shion and Karen) 1-b Case study 1: USA (Rachel) 1-c Case study 2: CANADA (Raphael) 1-d Case study 3: JAPAN & ICES ASC (Shion and Makino) 1-e General Discussion
	Lunch
PM	2 Hands on session: 2a Running R code 2b Sharing preliminary analysis results (China, Korea, Russia) 3 WG51 Business meeting 3a Outline of WG51 paper (ICES JMC) 3b Draft workshop (W3) report

**WG 51 Online Meeting 2/2024**

April 16, 2024, 17:00–18:00 (Victoria)/ April 17, 2024, 10:00–11:00 (Tokyo)

**Members**

Shion Takemura (Japan, Co-Chair)  
Karen Hunter (Canada, Co-Chair)  
Raphael Kevin Roman (Canada)  
Mitsutaku Makino (Japan)  
Moo Joon Lee (Korea)

**Members unable to attend**

China: Ling Cao  
USA: Rachel Seary

**WG 51 Online Meeting 3/2024**

May 6/7, 2024

**Members**

Shion Takemura (Japan, Co-Chair)  
Karen Hunter (Canada, Co-Chair)  
Raphael Kevin Roman (Canada)  
Mitsutaku Makino (Japan)  
Moo Joon Lee (Korea)  
Rachel Seary (USA)

**Members unable to attend**

China: Ling Cao  
Korea: Jongseong Ryu

**WG 51 Online Meeting 4/2024**

July 11, 2024, 17:00–18:00 (Victoria)/ July 12, 2024, 09:00–10:00 (Tokyo)

**Members**

Shion Takemura (Japan, Co-Chair)  
Karen Hunter (Canada, Co-Chair)  
Raphael Kevin Roman (Canada)  
Moo Joon Lee (Korea)  
Rachel Seary (USA)

**Members unable to attend**

China: Ling Cao  
Japan: Mitsutaku Makino  
Korea: Jongseong Ryu

**WG 51 Online Meeting 5/2024**

August 21, 2024, 17:00–18:00 (Victoria)/ August 22, 2024, 09:00–10:00 (Tokyo)

**Members**

Shion Takemura (Japan, Co-Chair)

Mitsutaku Makino (Japan)

Moo Joon Lee (Korea)