

## Report on Joint NPFC-PICES activities for SC-07, December 2022

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### Background

The North Pacific Marine Science Organization (PICES) and the NPFC are both intergovernmental organizations which have several member countries in common and an overlapping geographic scope. PICES is a scientific organization that fosters multi-national, collaborative and trans-disciplinary science to advance the understanding of North Pacific ecosystems, and works with partner organizations to address shared priorities for scientific advancement.

Both organizations endorsed a *Framework for Enhanced Scientific Collaboration in the North Pacific* in October 2019, following the work of a joint Study Group which met over a year to draft the Framework. The full document can be found here: <https://meetings.pices.int/publications/annual-reports/2019/2019-SG-PICES-NPFC.pdf>

The Framework identified three major areas of mutual interest that were to be a focus during the first 5 years, to 2024: (i) support for stock assessment for priority species (ii) vulnerable marine ecosystems and (iii) ecosystem approach to fisheries. Mechanisms were identified to facilitate the cooperation, such as NPFC co-sponsorship of workshops and themed sessions at PICES meetings, participation in PICES working groups and reciprocal representation at each organization's annual meetings.

### Join activities to date

- A joint NPFC-PICES workshop was held at PICES-2019 on "*the influence of the environment on Pacific Saury*".
- NPFC representatives also attended the joint PICES-NPAFC-NPFC workshop at PICES-2019 on "*Developing a collaborative, integrated ecosystem survey program to determine climate/ocean mechanisms affecting the productivity and distribution of salmon and associated pelagic fishes across the North Pacific Ocean*".
- PICES and ICES formed a joint Working Group on Small Pelagic Fish (WG 43 [working-groups - PICES - North Pacific Marine Science Organization](#)) in 2019, and NPFC nominated two representatives, Dr. Toshihide Kitakado and Dr. Oleg Katugin to the WG. Owing to the COVID-19 pandemic WG meetings have been mostly virtual since then and the WG life was extended to enable it to complete its final term of reference, to organize a joint ICES/PICES symposium on SPF. This was originally scheduled for late 2021 but eventually occurred when meetings resumed in-person, in Lisbon, Portugal from November 7-11, 2022 and was themed "Small Pelagic Fish: New Frontiers in Science for Sustainable Management". NPFC made a contribution of US\$15,000 to the symposium and was represented on the Steering Committee by Dr. Toshihide Kitakado and at the Symposium by Dr. Zavolokin, the NPFC Science Manager. The Symposium was highly successful with 288 participants from 39 countries (127, or 44%, of whom were early career scientists) giving 278 presentations (194 oral and 84

posters). There are two journal special issues planned which in due course will publish many of these presentations. PICES is very grateful for the contributions of the NPFC.

- In 2020 PICES formed a Working Group on the Ecology of Seamounts (WG 47 [working-groups - PICES - North Pacific Marine Science Organization](#)) and even though NPFC is not formally represented in the WG, some NPFC scientists are involved in its work including the Chair of the NPFC Scientific Committee (Dr Janelle Curtis) who co-chairs WG 47.
- The PICES-2022 annual meeting took place in Busan in September 2022. The NPFC co-sponsored a topic session, “S5-Environmental variability and small pelagic fishes in the North Pacific: exploring mechanistic and pragmatic methods for integrating ecosystem considerations into assessment and management”. The session comprised 12 talks (two invited and ten contributed) and two posters in the poster session (full details can be found here [PICES-2022-Sessions.pdf](#)).
- NPFC Scientific Committee members also co-convened a workshop at PICES-2022 with members of WG 47 on “Distributions of pelagic, demersal and benthic species associated with seamounts in the North Pacific Ocean and factors influencing their distributions”. The workshop was held in hybrid mode because several participants were unable to travel at the last minute, and was divided into three main topics: a series of oral and poster presentations on seamount ecology (12 in all), case studies of particular topics on predictive modeling of seamount taxa and discussions of emerging issues that were inspired by the presentations and case studies. A report will be published in the upcoming edition of PICES Press.
- The NPFC and PICES agreed to hold a joint international course/workshop on Vulnerable Marine Ecosystem (VME) indicator taxa identification, and financial contributions of US\$15,000 from each organization have been approved. The course is aimed at capacity building and sharing knowledge on the identification of coral species in the North Pacific. It will include both theory and practice such as lectures on the taxonomy, physiology and geographical distribution of the VME indicator taxa and training on the identification of coral specimens. The course was originally scheduled for 2020 but was postponed because of the covid-19 pandemic and will be most effective if it can be held fully in-person. The date is yet to be finalized.

### **Representation at Annual Meetings**

Representatives of the NPFC participated in PICES-2021 (virtual) and PICES-2022 attending business meetings of the Science Board, Biological Oceanography Committee (BIO), Fishery Science Committee (FIS) and some business meetings of PICES working groups (such as WGs 43 and 47). Written reports were also provided to PICES Governing Council.

The Executive Secretary of PICES attended the NPFC’s Scientific Committee meeting in December 2020 and 2022, also giving a presentation on joint activities between the organizations.

### **Upcoming opportunities**

- The next PICES annual meeting, PICES-2023, will be held in Seattle, Oct 20-27<sup>th</sup>, 2023. PICES Governing Council approved a session for PICES-2023 with potential co-sponsorship by NPFC. Final details are still to be determined but the theme is likely “*Seamount biodiversity: vulnerable marine ecosystems (VMEs) and species associated with seamounts in the North Pacific Ocean*”. Main convenors are Janelle Curtis, Mai Miyamoto, Devon Warawa, Sam Georgian, Akash Sastri and Chris Rooper
- **The BECI project.** In response to the challenges imposed by climate change on the people and ecosystems of the North Pacific, the North Pacific Anadromous Fisheries Commission (NPFC) and PICES are developing the BECI (Basin-scale Events to Coastal Impacts) project as an endorsed project of the UN Decade of Ocean Science for Sustainable Development (UNDOS), see <https://beci.info/> . Over the timeline of the UNDOS through 2030, BECI will develop, test and implement an international ocean intelligence system of monitoring, research and analytical approaches that will provide timely knowledge, predictions and advice to decision makers about the impact of current and future climate on ocean conditions in high seas and coastal socio-ecological systems, in particular fisheries. The system will have broad applicability to species and fisheries in high seas regions of the North Pacific, and BECI is expecting to provide information that could be used in developing stock assessments of the priority species managed by the NPFC.

The BECI project development is ongoing at this time and active partners are currently being recruited. A total of four workshops were held during the spring and summer of 2022 with 45 scientists participating. They confirmed the feasibility of the major elements of the project including modelling, monitoring using new technologies and data mobilization. A critical next step is to build on these workshops to complete a robust science plan that will be submitted for approval to PICES Governing Council at PICES-2023, for BECI to become a PICES Special Project. The science plan will be used to inform a detailed implementation plan and to engage funders and partner organizations. A week-long workshop with 25 experts from around the Pacific Rim will be convened in the first quarter of 2023 to produce an initial draft of the BECI Science plan.

PICES is soliciting expressions of interest and support for BECI and its goals. In due course PICES and NPFC will discuss where aspects of the project are relevant to the *Framework for Enhanced Scientific Collaboration* and BECI may seek additional engagement from NPFC such as; participation in the Advisory Board or Steering Committee that will guide the implementation of BECI and co-sponsorship of PICES-hosted workshops or sessions that are mutually beneficial to the NPFC and BECI.