



**PCRC-ArCS Special Sessions on post-ArCS research agenda for Arctic legal and policy studies
at 12th Polar Law Symposium, Hobart, Tasmania, 1-4 December 2019**
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Networking Regional and National Arctic Science Programs into a Joint Program of Scientific Research and Monitoring for the Central Arctic Ocean (CAO)

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ABSTRACT

An important agenda item for post-ArCS legal and policy studies is to network marine science initiatives in the Arctic to improve policy decisions for the Central Arctic Ocean (CAO). This research would identify and begin to address political, legal, financial, and operational challenges to the success of a CAO marine science network. Building in this way on the impressive marine research results already achieved by Japan's Arctic Challenge for Sustainability would continue to demonstrate a basic premise of ArCS: that a holistic understanding of climate changes in the Arctic through comprehensive and integrated research can effectively inform decision making and problem solving, and that international cooperation is key to these outcomes.¹

This paper proposes that networking Arctic marine research initiatives can efficiently provide much of the science needed to launch the Joint Program of Scientific Research and Monitoring (hereafter "the Joint Program") required under Article 4 of the 2018 Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (hereafter "the Agreement"). Research from 2015 to 2020 on marine ecosystems under ArCS Research Theme 6² already intersects productively with other national and regional marine research programs and institutions active in the Arctic, including CAFF, DBO, FisCAO, PAG, the PICES/ICES WGICA, the Nansen Legacy, and others. Some of these intersections are formalized and others are opportunistic. Networked, these research entities and programs have the potential to provide a model for the Joint Program and to leverage financial and in-kind resources for a sum that is greater than its parts. If

¹ "ArCS has two essential aims. The first one is to make information from scientific facts and to deliver it to internal and external various stakeholders so that they can make appropriate decisions for the sustainability of the vulnerable Arctic. The second one is to promote the presence of Japan within various international legal discussions for harmonized and sustainable development of the Arctic." The Second International Advisory Board of Arctic Challenge for Sustainability (ArCS), 5. Issue date March 2019, ArCS secretariat, National Institute of Polar Research (NIPR) 10-3, Midoricho, Tachikawa, Tokyo 190-8518, Japan.

² ArCS Theme 6: Response and biodiversity status of the Arctic ecosystems under environmental change.

properly structured, a strong and flexible Arctic fisheries and ecosystem science network could evolve into a more formal science body should one be desired.

The Agreement provides that the Parties shall guide development and implementation of the Joint Program (Art. 4.3) and “ensure that the Joint Program of Scientific Research and Monitoring takes into account the work of relevant scientific and technical organizations, bodies and programs, as well as indigenous and local knowledge” (Art. 4.4). The Joint Program should assure scientists and indigenous knowledge holders currently engaged in activity relevant to the Central Arctic Ocean, the adjacent Large Marine Ecosystems, and gateway regions of the CAO that their research will be built upon and inform what is in many ways a whole new area of inquiry. Precisely because so little is known about fisheries in the CAO, the Joint Program must rely on the relatively more established body of research and experience from the CAO’s marginal seas, itself nascent in many regards.

The Agreement does not specify what form the Joint Program should take. Candidates for the marine science network proposed here include national, regional, public, private, and independent research programs, and international organizations in which official national science delegations participate. Strong and relevant science is being generated by multilateral environmental agreements such as the Convention on Biological Diversity and its work on Arctic Biodiversity Assessment with the Arctic Council’s CAFF working group. Successful science-based fishery management organizations, like the North Pacific Anadromous Fish Commission may provide organizational examples for research collaboration. Management authorities and multiple levels of government also produce much actionable marine science; and the modeling community is eager to have its work ground-truthed, enhanced and used.

Whatever form the Joint Program takes, the Parties’ national scientific programs in government ministries will continue to shape implementation of the Agreement after the Joint Program is in place.³ Whether governmental, academic or private research, ideally the strongest mechanisms for soliciting, prioritizing, financing and otherwise supporting research will be used to create, implement, and build upon the Joint Program. The challenge is drawing intelligently on this range of entities. One avenue of investigation is the feasibility of a stepwise progression from a network to a committee to a full-fledged organization.

This paper will build upon the substantial work of groups like the intergovernmental FisCAO⁴ and the WGICA⁵ that are already focused on how to build a science program for the Central Arctic Ocean. It contributes the additional perspective of the author’s experience in managing a regional marine science funding organization in Alaska, whose mandate is to support collaborative research on pressing fishery management and ecosystem information needs.⁶ The

³ During the regular meetings of the Parties required by the Agreement for its further implementation, they shall “review all available scientific information developed through the Joint Program of Scientific Research and Monitoring, from the national scientific programs, and from any other relevant sources, including indigenous and local knowledge.” Art. 5.1(b).

⁴ Final Report of the Fifth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean, April 2018, https://www.afsc.noaa.gov/Arctic_fish_stocks_fifth_meeting/pdfs/Final_report_of_the_5th_FisCAO_meeting.pdf

⁵ ICES/PICES/PAME Working Group on Integrated Ecosystem Assessment for the Central Arctic Ocean, see, e.g., its Interim Report, 2017, <https://meetings.pices.int/publications/other/members/WG-39-WGICA-2017-full-report.pdf>.

⁶ North Pacific Research Board, 43 United States Code §1474d(e)(2).

paper will also chart research plans that could be pursued under the post-ArCS project for the year 2020-25, in collaboration with Kobe PCRC and other universities and research institutions. These plans will propose concrete research connections between scientific, technical, and indigenous peoples' organizations, reflecting the groups identified the Agreement's directions for development and implementation of the Joint Program (Art. 4.3).

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