

The Study Group on *Marine Pollutants*

The Study Group on *Marine Pollutants* (SG-MP Endnote 1) met at PICES-2012 on October 12, 2012, in Hiroshima, Japan, to finalize its report to the MEQ Committee and to formulate recommendations for future PICES activities. A draft of the Study Group report comprised input on research needs and priorities for the North Pacific Ocean, and identified opportunities for future collaboration. The SG-MP brought together participation and feedback from all six PICES member countries, and built on the successful workshop held at PICES-2011 in Khabarovsk, Russia.

The SG-MP:

- i) identified pollution priorities for the North Pacific Ocean,
- ii) proposed a selection of indicator (sentinel) approaches to pollution research and monitoring,
- iii) recommended efforts to carry out inter-laboratory calibration and method sharing, and
- iv) identified several existing or proposed multi-lateral or professional partnerships.

While the SG-MP noted variation in the responses (priorities) of PICES member countries, there was broad agreement on a common working list of important marine pollution topics for the North Pacific Ocean. These included:

- i) identification of priority pollutants (persistent, bioaccumulative and toxic pollutants; hydrocarbons; metals, elements and radionuclides; microplastics; biological pollutants);
- ii) evaluation of useful and relevant indicator approaches to assessing ocean pollution (water/air/sediments; marine mammals and seabirds; fish; benthos; seaweeds; plastics);
- iii) identification of inter-laboratory method calibration opportunities and study design sharing; and
- iv) multilateral collaboration opportunities (ICES, GESAMP, NOWPAP, SETAC).

Indicators of pollution can provide an effective integrated message to managers (*e.g.*, response to regulations, source control, remediation, risk-based evaluation of seafood safety, general ecosystem indicators).

Based on input of the six PICES member countries during the 2011–2012 year, and deliberations during the 2012 meeting at Hiroshima, the SG-MP proposed three activities to PICES (MEQ Committee):

- i) establish a new Section on *Emerging Topics in Marine Pollution* (S-ETMP) (SG-MP Endnote 2);
- ii) convene a ½-day Topic Session at PICES-2013 (Nanaimo, Canada) on “*Status, trends and effects of pollutants in coastal ecosystems: Implications for wildlife and humans*” (SG-MP Endnote 3);
- iii) organize a workshop/field trip on “*Traditional seafoods of the Snuneymux’w First Nation: Insight into food, social and ceremonial uses*” (SG-MP Endnote 4) to be hosted at the local aboriginal community during PICES-2013.

SG-MP Endnote 1

SG-MP participation list

Members

Sang Hee Hong (Korea)
 Shigeru Itakura (Japan)
 Olga Lukyanova (Russia)
 Peter S. Ross (Canada, Chairman)
 Won Joon Shim (Korea)
 Mikhail Simokon (Russia)
 Staci Simonich (USA)
 Zijun Xu (China)

Observers

Karin Baba (Japan)
 John Elliott (Canada)
 Yochiro Ishibashi (Japan)
 Sangjin Lee (NOWPAP)
 Hideaki Maki (Japan)
 Vasiliy Tsygankov (Russia)

SG-MP Endnote 2

Proposal to establish a new Section on *Emerging Topics in Marine Pollution*

The Study Group on *Marine Pollutants* proposes a new PICES Section on *Emerging Topics in Marine Pollution* that will provide an expert platform for the timely discussion of new pollution issues and priorities in the North Pacific Ocean. Marine pollution priorities vary over space and time, and as a function of human and industrial activities. In some cases, marine pollution can affect the socio-economic well-being of coastal communities by reducing the availability of safe and abundant seafoods, affecting the health of endangered species, and/or negatively impacting the value of the ecotourism sector. The protection of ecosystem health and services requires rapid and sensitive means to detect emerging pollutant issues before serious adverse impacts arise. Regulations and/or other management actions resulting from marine pollution research in the past has led to dramatic declines in environmental concentrations of a number of harmful pollutants, subsequently improving the health of marine biota. This Section will work with the MEQ and FIS committees and provide a leadership role in the provision of advice, and the planning of special sessions and workshops. The Section will identify new contaminants of concern, clarify priority pollutant concerns, and assess the relative importance of pollutants among other natural and anthropogenic stressors.

The establishment of this Section will ensure the continued availability of expertise on marine pollutants within PICES, and deliver guidance to the FUTURE Advisory Panels (AICE, COVE and SOFE). Since climate change is affecting the transport, fate and effects of marine pollutants, this Section will also be of value to other committees, working groups and sections. Importantly, the proposed Section will address the question identified in the FUTURE Science Plan “*How do human activities affect coastal ecosystems and how are societies affected by changes in these ecosystems?*”

Terms of Reference

1. Identify emerging marine pollutants in the North Pacific Ocean by:
 - a. convening timely Topic Sessions and workshops on new and emerging pollutants and pollution issues;
 - b. identifying useful indicators of status, trends and effects; and
 - c. providing ecosystem-based advice to PICES Sections, Working Groups and Advisory Panels, especially those identified in the FUTURE Science Plan (AICE, COVE and SOFE).
2. Establish partnerships with other professional or multilateral organizations (*e.g.*, ICES, GESAMP, NOWPAP and SETAC).
3. Conduct joint activities (working group, sessions, publications) with other parties.
4. Design and/or conduct special projects on emerging marine pollutants.

Proposed Co-Chairmen: Olga Lukyanova (Russia), Peter S. Ross (Canada), Joel Baker (USA)

Proposed membership:

John Elliot (Canada)

Zhengguo Cui (China)

Zijun Xu (China)

Ziwei Yao (China)

Shigeru Itakura (Japan)

Hideaki Maki (Japan)

Sang Hee Hon (Korea)

Hyo-Bang Moon (Korea)

Won Joon Shim (Korea)

Michail Simokon (Russia)

Staci Simonich (USA)

Gina Ylitalo (USA)

SG-MP Endnote 3**Proposal for a ½-day Topic Session on “*Status, trends and effects of pollutants in coastal ecosystems: Implications for wildlife and humans*” at PICES-2013**

Marine pollutants can impact the quality and/or abundance of invertebrates, fish, and wildlife. In addition, the contamination of seafood can diminish the viability of commercial species and/or deliver potentially harmful contaminants to human consumers. While pollutant topics vary geographically, a number of priority pollutants are common throughout the northern hemisphere. This session will highlight a number of practical approaches to assessing the status, trends and effects of emerging and/or priority pollutants in the PICES region, as well as examples from other parts of the world. Some of these approaches are presently being used as indicators of marine environmental quality in some jurisdictions. Examples include the ‘Mussel Watch’ program for monitoring metals and persistent organic pollutants (POPs), spatial and temporal trends in POPs in seabird eggs, and effects of POPs and hydrocarbons on the health of marine biota. Some of these efforts have proven very useful in revealing improvements to marine ecosystem health subsequent to the implementation of regulations, including the dramatic declines in PCB, DDT, dioxin and organotin levels and associated effects. Nevertheless, a number of pollutant concerns are emerging, such as replacement flame retardants, pharmaceuticals, and current use pesticides. Characterizing the status, trends and effects of marine pollutants in coastal ecosystem components can provide cost-effective means to guide regulations, source control and/or remediation strategies that will ultimately protect ecosystem health and services.

Sponsoring Committee/Program: MEQ, FUTURE

Co-convenors: Olga Lukyanova (Russia) and Won Joon Shim (Korea)

Invited speakers: TBD

SG-MP Endnote 4**Proposal for a 1-day Workshop and field trip on “*Traditional seafoods of coastal aboriginal communities in the North Pacific: Insight into food, social and ceremonial uses at Snuneymux’w First Nation in Nanaimo, British Columbia*” at PICES-2013**

Seafoods are an integral part of the nutritional, social and cultural fabric of many aboriginal communities inhabiting coastal regions of the North Pacific Ocean. The Snuneymux’w First Nation in Nanaimo, British Columbia, is home to 1,200 residents who have relied heavily on seafoods for thousands of years. Despite now living in an urban environment with ready access to supermarket foods, it has been recently estimated that the average individual from this aboriginal community consumes 12 to 15 times as much seafood as the average Canadian. Much of this is harvested locally by native fishers. Community members routinely express concerns about the quality and quantity of their local seafoods. It is becoming increasingly evident that the availability of nutritious and uncontaminated seafoods is important for food, social and ceremonial purposes in this other coastal communities in BC. This workshop will bring together local members of the Snuneymux’w First Nation and PICES participants, and provide an invaluable opportunity for sharing, learning and teaching about the importance of traditional seafoods to this aboriginal community. The workshop will involve discussions on science and traditional ecological knowledge.

This workshop is open to any participant attending the 2013 PICES Annual Meeting, but a maximum capacity is set at 45 persons. The workshop will be of interest to persons working on issues of marine stewardship, marine resource management, seafoods, and local cultures. Local practices, culture and traditions of First Nations will be showcased at this workshop, with additional input from resource persons from other communities. The workshop will feature:

- cultural welcome and prayer from representative of the Chief-in-Council, Snuneymux’w First Nation;
- song and drum opening from local community members;
- teachings from local community elders on marine resource management and sustainable harvesting;

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- discussions on the role of traditional ecological knowledge (TEK) in a science-driven world (a panel of elders and scientists will be invited to prepare 4 × 15 minute talks, followed by discussions);
- a tour of the local seashore south of Nanaimo where practical demonstrations will take place on techniques to harvest seaweeds, shellfish and other seafoods;
- preparation of lunch foods using traditional aboriginal cooking techniques including a pit-cook and bentwood box; lunch and snacks comprising locally and seasonally-available foods as prawns, oysters, sea urchins, salmon, halibut, and a variety of crops and plants.

Sponsoring Committee: MEQ

Facilitator: Peter Ross (Canada) and local aboriginal community members