

**PAME-II 2013 Agenda Item 4.1(d)  
AMSA Recommendation I(A) & II(C)  
AOR Final Report Recommendation 3  
Report on the International Council for the Exploration of the Sea (ICES)**

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**BACKGROUND**

AMSA Recommendation I(A) provides:

*“The Arctic states decide to, on a case by case basis, identify areas of common interest and develop unified positions and approaches with respect to international organizations . . . to advance the safety of Arctic marine shipping; and encourage meetings, as appropriate, of member state national maritime safety organizations to coordinate, harmonize and enhance the implementation of the Arctic maritime regulatory framework.”*

AMSA Recommendation II(C) provides:

*“That the Arctic states should identify areas of heightened ecological and cultural significance in light of changing climate conditions and increasing multiple marine use and, where appropriate, should encourage implementation of measures to protect these areas from the impacts of Arctic marine shipping, in coordination with all stakeholders and consistent with international law.”*

AOR Final Report Recommendation 3 provides:

*“The Arctic Council could encourage its working groups to explore opportunities to develop stronger linkages with ICES and PICES on matters of Arctic marine science. (Three Arctic states are members of PICES; all eight Arctic states are members of ICES). This cooperation with sub-Arctic organizations in the “gateway” regions of the North Pacific and North Atlantic might provide avenues for the development of trans-regional mechanisms within the Arctic Council to allow observers such as IASC and relevant non-Arctic states to improve their contributions to the Council.”*

Pursuant to these Recommendations, the United States, Finland, Norway and Canada provide this report on Arctic-related activities of the International Council for Exploration of the Sea (ICES).

## **DISCUSSION**

ICES, the world's oldest intergovernmental science organization,<sup>1</sup> coordinates science and produces scientific advice on marine ecosystems in the North Atlantic and the North Sea.<sup>2</sup> ICES undertakes this by mobilizing scientific resources to collect and manage data, conduct experiments, perform analyses, and build models. It then disseminates the gathered knowledge through scientific publications, including the *ICES Journal of Marine Science*, and by providing scientific and/or management advice to clients who have requested such advice from ICES. Clients of ICES are competent authorities including governments, international organizations, and international commissions.<sup>3</sup> For example, the Oslo Paris Commission, the European Commission and the Northeast Atlantic Fisheries Commission are current or former clients of ICES.<sup>4</sup>

It is the view of ICES that by separating science from management, the scientific advice becomes more independent from national and economic interests.<sup>5</sup> ICES has no regulatory mandate and is not a regulatory body although ICES does provide management advice to member states.<sup>6</sup> ICES is a network of more than 4,000 scientists from almost 300 different institutions around the world, funded by twenty member states that use ICES advice in their management of the sea.<sup>7</sup> Though all ICES member states border the North Atlantic Ocean or Baltic Sea, ICES's cooperative network extends far beyond, encompassing international organizations, non-member countries, and scientific institutes/scientists worldwide.<sup>8</sup>

In 1964, ICES formalized its legal foundation and gained full international organization status through the *Convention for the International Council for the Exploration of the Sea*.<sup>9</sup>

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<sup>1</sup> ICES, *ICES Annual Report for 2001*, <http://info.ices.dk/products/annualreports.asp>. ICES was formed through an exchange of letters among eight countries in 1902. Founding member states include: Denmark, Finland, Germany, the Netherlands, Norway, Sweden, Russia and the United Kingdom. For a complete history of ICES, see Helen M. Rozwadowski, *The Sea Knows No Boundaries: A Century of Marine Science Under ICES*, Seattle and London: University of Washington Press and International Council for the Exploration of the Sea (2002).

<sup>2</sup> Gary Hubold, General Secretary, International Council for Exploration of the Sea, *ICES: A Century of Science and Advice for Sustainable Use of Marine Ecosystems*, <http://www.benguelacc.org/index.php/component/k2/item/70-experience-of-international-council-for-the-exploration-of-the-seas-ices-in-research-and-management>,

<sup>3</sup> ICES, *What We Do*, <http://www.ices.dk/explore-us/what-we-do/Pages/default.aspx>.

<sup>4</sup> *Id.*

<sup>5</sup> *Supra*, note 2.

<sup>6</sup> National Oceanic and Atmospheric Administration, ICES USA, *What does ICES do?*, [http://ices-usa.noaa.gov/what\\_does\\_ices\\_do.html](http://ices-usa.noaa.gov/what_does_ices_do.html).

<sup>7</sup> National Oceanic and Atmospheric Administration, ICES USA, *What is ICES?*, [http://ices-usa.noaa.gov/what\\_is\\_ices.html](http://ices-usa.noaa.gov/what_is_ices.html).

<sup>8</sup> ICES, *ICES Stocktaking of its Role and Capabilities in Ocean and Coastal Sustainability*, [http://www.uncsd2012.org/content/documents/ICES\\_Stocktaking\\_in\\_support\\_the\\_Inter-Agency\\_report.pdf](http://www.uncsd2012.org/content/documents/ICES_Stocktaking_in_support_the_Inter-Agency_report.pdf).

<sup>9</sup> ICES, *Convention for the International Council for the Exploration of the Sea*, Copenhagen, Sept. 12, 1964, entered into force on July 22, 1968, 652 U.N.T.S. 237, available at <http://www.ices.dk/explore-us/Pages/default.aspx>.

The Convention did not precisely define the Convention area but provides that ICES is concerned “with the Atlantic Ocean and its adjacent seas and primarily the North Atlantic.”<sup>10</sup> Member states reaffirmed their commitment to ICES with the signing of the 2002 Copenhagen Declaration on the Future ICES Strategy.<sup>11</sup> The three main functions of ICES as stated in the Convention are:

- To promote and encourage research and investigations for the study of the sea particularly those related to the living resources thereof
- To draw up programmes required for this purpose and to organise, in agreement with the Contracting Parties, such research and investigations as may appear necessary; and
- To publish or otherwise disseminate the results of research and investigations carried out under its auspices or to encourage the publication thereof.<sup>12</sup>

ICES currently has twenty member states, including all eight Arctic Council member governments, each of which is represented by two delegates at the ICES Council.<sup>13</sup> The Council is the principal decision and policy-making body of ICES. The Council holds one ordinary session per year, but may hold additional extraordinary sessions. The Council will next meet in October 2013 at ICES Headquarters in Copenhagen. ICES has been based in Copenhagen since its founding and is administered by a Chief Executive Officer, known as the General Secretary, who is supported by a staff of over fifty individuals.<sup>14</sup>

The ICES Bureau is the seven-person Executive Committee of the Council composed of a President, a First Vice-President, and five Vice-Presidents.<sup>15</sup> The Bureau members are elected by the Council and retain their seats on the Council while serving on the Bureau. Tasks of the Bureau include preparing and convening Council meetings, formulating the Council budget, and appointing Secretariat staff.<sup>16</sup>

ICES welcomes Affiliate Countries and Observers to its meetings, but only ICES member states are allowed to participate in votes of the Council.<sup>17</sup> Currently Australia, Chile, New Zealand, Peru, and South Africa are Affiliate Countries.<sup>18</sup>

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<sup>10</sup> *Id.* at Art. 2.

<sup>11</sup> ICES, *The Copenhagen Declaration on the Future Strategy of ICES*, Copenhagen, Oct. 4, 2002, [http://www.ices.dk/explore-us/who-we-are/Documents/CPH\\_declaration\\_2002.pdf](http://www.ices.dk/explore-us/who-we-are/Documents/CPH_declaration_2002.pdf) (last visited Mar. 15, 2013).

<sup>12</sup> *Supra*, note 7.

<sup>13</sup> ICES, *Member Countries*, <http://www.ices.dk/explore-us/who-we-are/Pages/Member-Countries.aspx>. Member countries include: Belgium, Canada, Denmark (including Greenland and Faroe Islands), Estonia, Finland, France, Germany, Iceland, Ireland, Latvia, Lithuania, the Netherlands, Norway, Poland, Russian, Spain, Sweden, the United Kingdom, and the United States of America.

<sup>14</sup> ICES, *ICES Stocktaking of Its Role and Capabilities in Ocean and Coastal Sustainability*, [http://www.ices.dk/iceswork/bulletin/ICES\\_Stocktaking\\_in\\_support\\_the\\_Inter-Agency\\_report.pdf](http://www.ices.dk/iceswork/bulletin/ICES_Stocktaking_in_support_the_Inter-Agency_report.pdf).

<sup>15</sup> ICES, *ICES Annual Report 2012*, <http://www.ices.dk/sites/pub/Publication%20Reports/ICES%20Annual%20Report/ANNUAL%20REPORT%202012%20WEB.pdf>.

<sup>16</sup> *Id.*

<sup>17</sup> ICES, *Observers*, <http://prep.ices.dk/community/get-involved/Pages/Observers.aspx>.

Much of ICES substantive work is carried out by committees. These are:

- **The Advisory Committee (ACOM)** – The ICES Council has delegated exclusive advisory authority to ACOM. Composed of one scientist from each member country and an independent chair appointed by the Council,<sup>19</sup> ACOM takes scientific advice prepared in ICES expert groups, subjects the advice to peer review and other processes to ensure that it meets certain criteria and then delivers the advice to the requesting client.<sup>20</sup> To accomplish its responsibilities, ACOM is composed of advice drafting groups, review groups, expert groups and data/benchmark groups.<sup>21</sup>
- **The Science Committee (SCICOM)** – The ICES Council has delegated to SCICOM the science authority of ICES.<sup>22</sup> SCICOM is composed of one member from each member state and an independent chair appointed by the Council. SCICOM authors the *Science Plan*, which identifies medium and long term research themes (high priority focus areas) of ICES.<sup>23</sup> Currently four themes have been identified: arctic research, integrated ecosystem assessments, marine strategy framework directive and sustainable aquaculture. SCICOM has established five steering groups that plan, coordinate and oversee the various Expert Groups: 1) Steering Group on Ecosystem Functions, 2) Steering Group on Human Interactions on Ecosystems, 3) Steering Group on Sustainable Use of Ecosystems, 4) Steering Group on Regional Sea Programmes, and 5) Steering Group on Ecosystem Surveys Science and Technology.<sup>24</sup>
- **The Finance Committee** – The Finance Committee ensures the financial stability of ICES.<sup>25</sup>
- **Expert Groups** – Also known as working or study groups, Expert Groups form the foundation of ICES. The Expert Groups bring together a network of over 4000 scientists from 300 different institutions, with approximately 1600 scientists participating annually in Expert Groups.<sup>26</sup> Scientists in the Expert Groups gather information necessary to fill gaps in existing knowledge and then develop the information into unbiased, non-political advice that supports management of the ICES Convention area by ICES's clients.<sup>27</sup> Members of Expert Groups meet at

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<sup>18</sup> ICES, *supra* note 11.

<sup>19</sup> ICES, *ACOM – Advisory Committee*, <http://www.ices.dk/community/groups/Pages/ACOM.aspx>.

<sup>20</sup> *Id.*

<sup>21</sup> ICES, *How We Work*, <http://ices.dk/explore-us/how-we-work/Pages/default.aspx>.

<sup>22</sup> ICES, *SCICOM – Science Committee*, <http://www.ices.dk/community/groups/Pages/SCICOM.aspx>.

<sup>23</sup> ICES, *ICES Science Plan (2009- 2013)*, <http://www.ices.dk/community/Documents/SCICOM/ICES%20Science%20Plan%202009-2013%20formatted.pdf>.

<sup>24</sup> ICES, *supra* note 21.

<sup>25</sup> ICES, *Finance Committee*, <http://www.ices.dk/explore-us/who-we-are/Pages/Finance-Committee.aspx> (last visited Mar. 15, 2013).

<sup>26</sup> ICES, *Who We Are*, <http://ices.dk/explore-us/who-we-are/Pages/Who-we-are.aspx>.

<sup>27</sup> ICES, *supra* note 9, at Art. 2 (“The Council shall be concerned with the Atlantic Ocean and its adjacent seas and primarily concerned with the North Atlantic.”).

symposia throughout the year and at an Annual Science Conference (ASC) held by ICES for scientists, stakeholders and students at different locations each year. Attendees at ACS exchange and share their experiences, new ideas, research results, and discuss practical challenges and solutions.<sup>28</sup> Typically 600-700 participants attend the ASC. The next ASC will be held September 23-27, 2013 in Reykjavik, Iceland.

## **ARCTIC ACTIVITIES**

ICES has declared the Arctic a research theme (a high priority focus area).<sup>29</sup> The *ICES Science Plan* for 2009-2013 first identified the Arctic region as a high priority research topic due to its sensitive ecosystem and its need to be mapped as a basis for conservation and management.<sup>30</sup> Recently, ICES reached out to an official of Fisheries and Oceans Canada to identify potential areas of collaboration in the Arctic.<sup>31</sup> ICES is considering how it might contribute to Arctic research and is of the view that it has “much to offer in the form of collaborative opportunities and partnerships, reducing the risk of duplication, overlap, or overstretched resources and ensure that new initiatives are well coordinated with existing ones.”<sup>32</sup>

ICES recently applied for observer status at the Arctic Council.<sup>33</sup> The application was not submitted in time to be considered at the most recent AC Ministerial in Kiruna, Sweden in May 2013.<sup>34</sup> ICES is already an observing organization of the Arctic Council’s Arctic Monitoring and Assessment Programme (AMAP).<sup>35</sup> In May 2013, AMAP and ICES co-hosted a Conference on “Acidification of the Arctic Ocean and Northern Seas: Trends and Consequences” in Bergen, Norway.<sup>36</sup> ICES also has a formal agreement with AMAP to maintain AMAP’s thematic data center for marine contaminants.<sup>37</sup> Scientists within ICES

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<sup>28</sup> ICES, *ASC 2013*, <http://ices.dk/news-and-events/asc/ASC-2013/Pages/default.aspx>.

<sup>29</sup> ICES, *Themes: Arctic Research*, <http://ices.dk/news-and-events/themes/Pages/Arctic.aspx>.

<sup>30</sup> ICES, *Science Plan (2009-2013)*,

<http://www.ices.dk/community/Documents/SCICOM/ICES%20Science%20Plan%202009-2013%20formatted.pdf> (last visited Mar. 15, 2013) (A new ICES Strategic Plan for 2014-2018 is likely to be submitted to member states in October 2013).

<sup>31</sup> ICES, *Arctic Research*, <http://www.ices.dk/news-and-events/news-archive/news/Pages/Working-towards-a-new-ICES-Strategic-Plan-2014%E2%80%932018---Outlining-Future-Work-and-Identifying-Priorities.aspx>.

<sup>32</sup> ICES, *Themes: Arctic Research*, *supra* note 29.

<sup>33</sup> Letter from Magnús Jóhannesson, Director of the Arctic Council Secretariat, to Anne Christine Brusendorff, General Secretary for ICES (April 15, 2013) (on file with NOAA).

<sup>34</sup> Arctic Council, *Observers*, <http://www.arctic-council.org/index.php/en/about-us/partners-links>.

<sup>35</sup> Arctic Monitoring and Assessment Programme, *Organizational Structure*, <http://www.amap.no/>.

<sup>36</sup> Arctic Ocean Acidification International Conference, *About the Conference*. Also see: ICES, *Resolution for ICES-sponsored symposium (Category 3)*, [http://www.ices.dk/explore-us/Documents/Resolutions/2012%20Resolutions/Category%203%20\(symposia\)%20resolutions.pdf](http://www.ices.dk/explore-us/Documents/Resolutions/2012%20Resolutions/Category%203%20(symposia)%20resolutions.pdf) (ICES has co-hosted events with AMAP in the past, see AMAP, EEA, and ICES, *Workshop on the Combined Effects in the Marine Environment, Report of the workshop*, Copenhagen, 16-17 November 1998, available at <http://amap.no/documents/>).

<sup>37</sup> AMAP, *About AMAP/Data Collection*, <http://www.amap.no/aboutamap/data.htm>; ICES, *ICES Datasets*, <http://ices.dk/marine-data/dataset-collections/Pages/default.aspx>.

have used scientific literature and the results of scientific investigations carried out within AMAP to prepare scientific papers.<sup>38</sup>

Currently ICES Arctic Fisheries Working Group (AFWG) is the only ICES Expert Group devoted solely to the Arctic. The AFWG conducts research on environmental conditions in the northeast Arctic, surveys several fish species such as Northeast Arctic Cod and Arctic Haddock, and provides advice on fish stocks to the Joint Norwegian-Russian Fisheries Commission and the Northeast Atlantic Fisheries Commission.<sup>39</sup> The AFWG met most recently in April 2013.

ICES annually publishes *ICES Report on Ocean Climate* and biannually publishes *ICES Zooplankton Report*, both of which have been limited to subarctic waters but will now expand to cover additional subjects such as the warming of the Arctic Ocean and evaluating the environmental risks of shipping and oil and gas exploration.<sup>40</sup> In the past, ICES Expert Groups have held workshops on Ecosystems Studies of Sub-Arctic Seas, Biological Consequences of a Decrease in Sea Ice in Arctic and Sub-Arctic Seas, and Biological Reference Points for Northeast Arctic Haddock.<sup>41</sup> In 2012, the ICES Study Group on Ocean Acidification adopted a resolution to contact other “relevant international initiatives” on ocean acidification, including any undertaken by the Arctic Council.<sup>42</sup>

The North Pacific Marine Science Organization (PICES) is an intergovernmental science organization similar to ICES but concerned with the “temperate and sub-Arctic region of the North Pacific Ocean and its adjacent seas, especially northward from 30 degrees North latitude.”<sup>43</sup> PICES member states include Canada, China, Japan, the Russian Federation, South Korea and the United States.<sup>44</sup> ICES and PICES work together through participation in joint science steering groups and participation in each other’s science conferences.<sup>45</sup>

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<sup>38</sup> R.W. Macdonald and J.M. Bewers, *Contaminants in the Arctic Marine Environment: Parties for Protection*, 1996, ICES JOURNAL OF MARINE SCIENCE, 53: available at <http://icesjms.oxfordjournals.org/content/53/3/537.full.pdf>.

<sup>39</sup> ICES, *Arctic Fisheries Working Group*, <http://www.ices.dk/community/groups/Pages/AFWG.aspx>.

<sup>40</sup> ICES, *Themes: Arctic Research*, *supra* note 29.

<sup>41</sup> ICES, *Library*, <http://www.ices.dk/publications/library/Pages/default.aspx>.

<sup>42</sup> ICES, *2013 ACOM and ACOM Expert Groups Terms of Reference*, <http://www.ices.dk/explore-us/Documents/Resolutions/2012%20Resolutions/ACOM%20Resolutions%202012.pdf>

<sup>43</sup> North Pacific Marine Science Organization, *Convention for a North Pacific Marine Science Organization (PICES)*, S. Treaty Doc. No. 9 and S. Exec. Rep. No. 18, 102d Cong., 1st Sess. (1991), 137 Cong. Rec. S15,398 (daily ed. Oct. 29, 1991) (entered into force Mar. 24, 1992), available at <http://www.pices.int/about/convention.aspx>.

<sup>44</sup> North Pacific Marine Science Organization, *Welcome to PICES*, [www.pices.int](http://www.pices.int).

<sup>45</sup> ICES, *2011 Annual Report*, <http://www.ices.dk/sites/pub/Publication%20Reports/ICES%20Annual%20Report/2011AnnualReport.pdf#search=%22PICES%22> (“In 2011, SCICOM established the ICES-PICES Strategic Initiative on Climate Change Impacts on Marine Ecosystems (SICCME).”, “ICES/PICES Workshop on the Reaction of Northern Hemisphere Ecosystems to Climate Events: A Comparison (WKNORCLIM)”, and “Joint PICES/ICES Working Group on Forecasting Climate Change Impacts on Fish and Shellfish (WGFCIFS)”.).

**RECOMMENDATION**

As ICES is expanding its Arctic-focused research, the USA, Finland, Norway and Canada recommend that PAME extend an invitation to ICES to make a presentation at the PAME-1 2014 meeting. Specifically, the four Arctic States recommend that ICES be asked to address how its present and planned programs and activities may contribute to the protection of the marine environment of the Arctic, and where there may be opportunities for collaboration.