OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic

Working Group on Monitoring and on Trends and Effects of Substances in the Marine Environment (MIME)

Denmark (Copenhagen): 14–18 November 2016

Contents of the Summary Record

Annexes

MIME summary record

Agenda Item 0 – Opening and representation at the Meeting

MIME 16/0/1

0.1 The meeting of the Working Group on Monitoring and on Trends and Effects of Substances in the Marine Environment (MIME) was held from 14-18 November 2016 at the International Council for the Exploration of the Sea (ICES) in Copenhagen, Denmark.

0.2 The meeting was chaired by Vice-Chair Martin M. Larsen (Denmark) and was attended by representatives from the following:

Contracting Parties: Belgium, Denmark, France, Germany, Ireland, the Netherlands, Norway, Spain, Sweden and the United Kingdom;

Chair of INPUT: Lars Sonesten;

Inter-governmental Observer Organisations: The International Council for the Exploration of the Sea (ICES).

0.3 A list of participants is at **Annex 1**.

Agenda Item 1 – Adoption of the Agenda

MIME 16/1/1, MIME 16/1/1Add.1Rev.1, MIME 16/1/Info.1

1.1 The draft agenda for the meeting and provisional timetable were adopted (MIME 16/1/1 and 16/1/1 Add.1). The Heads of Delegation (HoDs) noted the late documents and agreed to address them all. HoDs noted the Vice-Chair had been willing to chair MIME 2016, but HoDs were invited to submit nominations for a new Chair of MIME by the end of the meeting. Furthermore HoDs noted the need to elect or re-elect Vice-Chairs of Assessment and Monitoring. A copy of the agenda with the revised document list submitted to the meeting is at **Annex 2**. A list of actions arising from the meeting is at **Annex 3**.

1.2 The Secretariat briefly reminded MIME of its Programme of Work 2015/16 for the Hazardous Substances and Eutrophication Committee (HASEC) (MIME 16/1/Info.1). Attention was drawn to those items that depended on actions by MIME, in particular the indicator assessments for the Intermediate Assessment 2017 (IA 2017). MIME noted all products would be addressed during the meeting and were on track to meet the stated deadlines for delivery.

Agenda Item 2 – JAMP and Contracting Parties' evolving monitoring as drivers for development of OSPAR monitoring of substances and of their effects

MIME 16/2/1, MIME 16/2/Info.1

Progress in the JAMP

2.1 The Secretariat briefly presented the Theme H products of the JAMP, to recall the specifications for JAMP 2014-2021 that required work by MIME (MIME 16/2/Info.1). MIME noted that the focus of the group's work and the timetable would be dictated by the CEMP-based assessment products and delivery for OSPAR's

Intermediate Assessment 2017 (IA 2017) and the next QSR, as laid out in Table A from JAMP 2014-2021, Theme H. No changes to the JAMP products or timetable were proposed. MIME discussed what would be required for the 'full CEMP roll-over assessment report' in 2018 (JAMP product H-15). Rob Fryer (United Kingdom) proposed that along with the assessment of contaminants MIME conducted annually, the common indicators could also be updated with the latest data and those assessments would also be made available in the assessment web-tool (http://dome.ices.dk/OSPARMIME/main.html). A short Word report with links to the information in the assessment tool could be published, for continuity with previous annual reports. MIME agreed to **ask HASEC for advice as to what was required for the 'full CEMP roll-over assessment report' in 2018 (JAMP product H-15)**.

Review of Contracting Parties' implementation of the CEMP

2.2 In a tour de table MIME discussed information provided by Contracting Parties on their national implementation of the CEMP, using MIME 16/2/1 as Contracting Parties' starting point. Parties provided the following updates to their CEMP-related national monitoring programmes:

2.2.a. the United Kingdom, including Scotland, reported there were no changes from last year;

2.2.b. Sweden reported there were no changes from last year. Sweden planned to include one more station on the west coast in the OSPAR maritime area for biological effects sampling. At stations where biological effects were monitored the planned programme would additionally include AChE (acetylcholinesterase) and micro-nuclei measurements;

2.2.c. Spain reported there were no changes from last year. In 2017 the national programme might incorporate more biological effects monitoring for OSPAR and MSFD purposes;

2.2.d. Norway reported there were no changes from last year;

2.2.e. the Netherlands reported there were no changes from last year;

2.2.f. Ireland reported there were no changes from last year. There would be a new research project to monitor seabird eggs. Imposex was measured nationally on approximately a 6-year cycle, with the next survey provisionally planned for 2017;

2.2.g. Germany reported there were no changes from last year. Work on TBT in sediments methods was ongoing and it was possible that TBT data would be delivered in the future;

2.2.h. France reported that it had harmonised its biota monitoring programme so that there was now one sampling period per year and an increased number of stations. For sediments there were additional stations in the Bay of Biscay as required by ICES guidelines. Fish sampling campaigns offshore had been implemented, which also included measurements of relevance to other MSFD Descriptors (e.g. D4). For biological effects there would be dedicated campaigns at three sites (one in the Mediterranean and two in the OSPAR area). The sites in the OSPAR area would be monitored in 2017-2018;

2.2.i. Denmark reported there was a new laboratory analysing samples using the existing monitoring system. From 2017 monitoring would change to measure substances in only one matrix: metals and PAHs in mussels; mercury and organic contaminants in fish only. Only

nonylphenols and phthalates would be monitored in sediment. There would be continued monitoring of biological effects of imposex every second year;

2.2.j. Belgium reported there were no changes from last year;

2.2.k. the Netherlands and Germany reported they were monitoring bird eggs annually in the Wadden Sea and data were submitted to the Trilateral Monitoring and Assessment Programme (TMAP) database. Next year there would be a Quality Status Report for the Wadden Sea.

2.3 The Secretariat and Contracting Parties used the information to check that their national programmes were accurately described in the extended CEMP appendices (§5.1).

Agenda Item 3 – Assessment activities

MIME 16/3/1, MIME 16/3/2, MIME 16/3/3(L), MIME 16/3/4(L), MIME 16/3/5(L), MIME 16/3/5(L) Add.1, MIME 16/3/Info.1

CEMP data assessment and development of the CEMP assessment web-application

3.1 Rob Fryer (the United Kingdom) informed MIME that the preparation of the 2016/17 CEMP rollover assessment was underway (MIME 16/3/1) and an updated draft rollover assessment was available on the ICES server, at http://dome.ices.dk/OSPARMIME2016/main.html. He described new developments in the web-tool, for example selecting by country. MIME noted some browsers were no longer supporting Flash-based applications and the web-tool would need to be rewritten in html5 in the coming year. This issue was further addressed under Agenda Item 6.1 (§§6.8-6.9). Data issues related to individual time series and data-screening for the common indicator assessments were described. Contracting Parties were invited to check their national data. In particular issues had been identified concerning: incorrect units; replicate measurements e.g. from the same grab, and; sediment data reporting in different matrices. During the course of the meeting the files on data issues related to the individual time series assessments and the common indicators were addressed and dealt with by Contracting Parties and indicator leads (see §3.5). MIME agreed **Rob Fryer (United Kingdom) would lead on producing a draft CEMP assessment report for HASEC's approval and publication at OSPAR 2017**.

3.2 The Secretariat presented a draft guidance document for using the CEMP online web-tool (MIME 16/3/2) that had been drafted in response to a request from HASEC. During the meeting Contracting Parties tested the guidance and provide corrections and suggestions to the Secretariat. MIME agreed **the Secretariat would refine the web-tool guidance and provide it to HASEC 2017**.

3.3 Simon Wilson, the representative from the Arctic Monitoring and Assessment Programme (AMAP) was unable to attend MIME to discuss assessment procedures and monitoring guidelines. Prior to the meeting he reported that in the past AMAP and OSPAR experts had held (temporal) trend workshops and there was already a degree of consistency in the statistical approaches and work routines employed. In future it would be interesting to consider whether this work could be optimised, also with respect to extraction and compilation of relevant data, possibly by aligning timing of assessment work. Apart from possible efficiency and cost-saving benefits this would also have some potential for allowing the respective organisations to better support other global initiatives, e.g. work under the Stockholm and Minimata Conventions. This would both increase the exposure and relevance of monitoring work and would also

provide enhanced justification for the cost and effort involved. Simon Wilson also offered input from AMAP relevant for OSPAR's next QSR. He recalled that in earlier years some HoDs were common to both AMAP and OSPAR and an arrangement was made where by AMAP information/data products were fed directly into the OSPAR Region I assessment, thereby avoiding duplication and improving harmonisation. MIME agreed **to propose to HASEC that MIME and AMAP would work intersessionally and during MIME 2017 to**: (a) **discuss and compare assessment procedures with AMAP, including extraction and compilation of relevant data**; (b) **consider whether work could be optimised by OSPAR and AMAP to better support other (global) initiatives (e.g. work under the Stockholm and Minamata Conventions)**, and; (c) **give consideration to the method and process for providing AMAP's Region I information and data for the next QSR**. Collaboration with AMAP was further discussed under Agenda Item 4.2 (§4.3).

Copper fact-sheet

3.4 The Vice-Chair (Denmark) reminded MIME of its commitment to draft a copper fact sheet, based on the report, 'Metals in sediment: status and trend of copper burden' (OSPAR publication 2016-677). Belgium and the United Kingdom offered to help and MIME agreed **Belgium, Denmark (lead) and the United Kingdom would produce a draft copper fact sheet for consideration by HASEC 2017**.

Common indicator assessments for the Intermediate Assessment 2017

3.5 The Secretariat presented an overview of the Intermediate Assessment (IA) 2017 (16/P0001). This included: a demonstration of the OSPAR Assessment Tool (OAT); a description of recent developments in the ten MIME-relevant indicator assessments, and; an introduction to the confidence rating that indicator leads were invited to use. Indicator leads screened data extracts from ICES and determined the final datasets to be used for the indicator assessments. During the meeting Rob Fryer (United Kingdom) produced draft plots and maps for the common indicators based on the screened datasets and the indicator leads and Secretariat worked to incorporate these into the indicator assessments. This included addressing comments from ICG-MAQ(3) 2016 and CoG(2) 2016. Ireland led on the check of MSTAT classifications. The Secretariat and indicator leads drafted ratings and statements of confidence for each indicator assessment. The Vice-Chair explained that work on the audit trail for assessment criteria (HASEC 16/6/6) had not been able to identify the source reference for the ER-Ls of two PAHs in sediment (see §4.10).

3.6 Following work by drafting groups during the meeting, MIME agreed that: (a) **indicator leads, supported by the Secretariat, would work intersessionally to finalise the draft common indicator assessments**; (b) **Rob Fryer (United Kingdom) would make available in the online CEMP assessment web-tool the detailed plots of status and trend by region and time series, as appropriate, for each indicator**; (c) **reference to the online plots would be made in the indicator assessment sheets**, and; (d) **the lead for the PAH in sediment common indicator (United Kingdom) would remove the assessment against the two unsupported ER-L values**.

Development of assessment criteria for PBDEs and metals

3.7 MIME discussed whether assessment criteria for PBDEs and metals in biota and sediment could be established. Sweden presented its national sediment assessment values for lead and TBT for classification of chemical status in Sweden (MIME 16/3/Info.1). The links with WFD EQS derivation and HELCOM assessment values were explained. MIME was fully aware of the limitations of current EU guidelines.

3.8 The United Kingdom (Rob Fryer) explained that as PBDE background concentrations should be zero, BACs would be established based on time-series of data and detection limits. However, for some PBDE compounds there were insufficient data for BACs to be developed. MIME agreed **Rob Fryer (United Kingdom) would analyse the data to calculate draft BACs for PBDEs, for those compounds with sufficient time-series, by HASEC 2017**.

3.9 There were insufficient ecotoxicological information for developing EACs for PBDEs. However, there were assessment values in existence for other purposes and these could be investigated for the purposes of a proxy-EAC. In particular, Canadian guidelines for sediment and biota[1], EU secondary poisoning EQS for fish, and European Food Safety Authority (EFSA)[2] food safety limits. MIME agreed:

3.9.a. **HASEC would be asked for more guidance on what was required, given there were not sufficient ecotoxicological data for MIME to develop Assessment Criteria**;

3.9.b. **Sweden would collate the assessment values from these guidelines and limits for the United Kingdom (Rob Fryer) to analyse the data and show the outcomes against each value, by HASEC 2017**;

3.9.c. **Sweden and Belgium would invite WGMS** (the Working Group on Marine Sediments in Relation to Pollution) and **MCWG** (Marine Chemistry Working Group) **to consider the assessment values and outcomes in March 2017**.

3.10 MIME discussed metals and in particular mercury assessment values. MIME noted issues of trophic levels varying between ecosystems, averages were not robust and had large uncertainty levels. The Chair of INPUT (Sweden) presented the draft indicator assessment on atmospheric and waterborne heavy metal inputs and highlighted mercury inputs to the Greater North Sea between 1990 and 2014.

3.11 After discussion MIME agreed **to make a proposal to HASEC 2017 for a request for advice from WGMS to review existing background concentrations (BC) for metals in sediment, including mercury, taking into account any new dated sediment cores available, and to provide suggestions for the analysis of uncertainty to produce a Background Assessment Concentrations (BAC)**. **The Vice-Chair of MIME (Denmark), Ireland and Rob Fryer (United Kingdom) would review the BACs for mercury and other metals and report progress to HASEC 2017 and MIME 2017**.

Biological effects monitoring and data

3.12 France presented an overview of the biological effects data Contracting Parties had submitted to ICES using the simplified 3.2 format (16/P0003 and MIME 16/3/5(L)). France reminded MIME that the OSPAR JAMP integrated guidelines initiative with the thresholds application in chemistry and biology were unique in the world. France recommended OSPAR should continue to promote this originality until it was adopted as a full CEMP component. MIME's attention was drawn to the scientific paper by Brack et al., 2017[3], which

[1]Environmental monitoring and surveillance in support of the chemicals management plan, "Polybrominated diphenyl ethers in the Canadian environment". Canadian Minster of the Environment, 2011.

[2]EFSA, "Scientific Opinion on Polybrominated Diphenyl Ethers (PBDEs) in Food". EFSA Journal 2011;9(5):2156 [274 pp.].

[3] Brack et al. (2017) Towards the review of the European Union Water Framework management of chemical contamination in European surface water resources. *Science of the Total Environment*, 576: 720-737

gave ten recommendations for the evaluation of water samples within WFD. The authors recommended adoption of Effects Based Tools as a key approach, addressing chemical interactions with aquatic organisms (MIME 16/3/5(L) Add.1). In order to make possible the integrated assessment of chemical contaminants and biological effects at a sub-regional or specific scale, France proposed the following study: limited hot-spots and pristine areas (new selected sites or historical sites) could be identified by each Contracting Party to develop the integrated approach in a short period, as a step towards integration of biological effects as a full CEMP component. In discussion the following points were made:

3.12.a. the different qualities of integration of chemical and biological effects data were pointed out:

i.a.i.i. the highest stage would be that both samples were from the same individual. This was sometimes not possible due to the necessary amount which were needed (e.g. small flatfish livers) or the different treatment, which could lead to parts of sample not being directly comparable (e.g. no homogenisation possible, sample cut in different parts, which were not homogeneous),

i.a.i.ii. the second, which was mostly practicable and preferred, was to use subsamples with comparable biological conditions from the same haul, and have a sufficient number of individuals,

i.a.i.iii. the third to have samples from the same site and different hauls was sometimes necessary, but may increase biological variability,

i.a.i.iv. the fourth to have samples from the same site but different sample days (or even seasons) were in most cases not really suitable and could be assessed only after some adjustments (e.g. taking into account differences in the annual cycles), which results only in relatively rough results and having a very low degree of integration;

3.12.b. other limitations in the proposed study were recognised, such as: the relationship between contaminant concentrations and biological effects was not necessarily linear, i.e. cause–effect was not straightforward for any particular pollutant; using only pristine and contaminated stations may not be representative of the actual relationship between the contaminants and biological effects, and; contaminant measurements from pristine sites showed too much variability within the biota (in mussels) itself to be useful.

3.13 Contracting Parties supported the proposed integrated effects study, recognising there were limitations. MIME agreed that (a) **France and the Secretariat would provide a report to HASEC 2017 on Contracting Parties' use of the simplified reporting format for biological effects** and (b) **France would lead on a study of integrated biological effects at hot-spots, for MIME 2017, and Contracting Parties would be invited to contribute to the study with both chemical and biological effects data as appropriate**.

3.14 MIME recalled that HASEC had tasked it to develop an outline for a risk-based approach for biological effects monitoring to identify where monitoring should be focused, and to draft a comparative list of arguments as to why certain biological effects parameters were/were not used**.** France and the United

Kingdom proposed a two-step approach. Step 1: in the first year focus on historic contaminants assessing which biological effects should be monitored in the chemical hot-spots identified through the CEMP annual assessment, i.e. those exceeding the EAC. Subsequently, propose contaminant-specific biological effects monitoring packages based on the Working Group on Biological Effects of Contaminants (WGBEC) report 2008[4]. Step 2: in the second year focus on emerging contaminants and how biological effects monitoring could inform the appropriate choice of chemical analyses, which would likely need to be based on more data submissions. MIME agreed **France and the United Kingdom would draft the outline for the proposed risk-based approach to biological effects monitoring, for HASEC 2017** (**Annex 4**) and if the approach was approved by HASEC, **France and the United Kingdom would conduct the first step of the risk-based approach in time for MIME 2017 and the second step in time for MIME 2018**.

Trial assessment of data on fish disease

3.15 Werner Wosniok, Germany, introduced a proposal for a trial assessment of Fish Disease Data using the Fish Disease Index (FDI) approach (MIME 16/3/4(L)). Background information and details of the proposed trial assessment were presented (16/P0004 and 16/P0005). Germany summarised that data were available, the quantity to be used in the assessment and assessment criteria were established. In discussion Germany responded to a range of technical, analytical and scientific questions, for example concerning normalisation, species-specific indices, correction factors, categorical or interval-scale data, variability in age-length relationships, degree of precision in the final presentation of data results and types of water from which fish disease data were gathered, i.e. open North Sea).

3.16 A step-wise approach was proposed, beginning with fish disease and later expanding to histopathology. In conclusion MIME agreed **Germany would lead the trial assessment of Fish Disease Data using the FDI and results would be presented to MIME 2017**. **Intersessionally before MIME 2017, the United Kingdom would communicate bilaterally with Germany on the methods used by its national pathologists**; **Germany would harvest fish disease data from the ICES database to include in the trial assessment**; **France would contribute its national data bilaterally to Germany**, and; **the Secretariat would provide shapefiles of the CEMP data**.

Agenda Item 4 – Development of monitoring and assessment tools

MIME 16/4/1, MIME 16/4/2, MIME 16/4/3(L), MIME 16/4/4, MIME 16/4/4Add.1, MIME 16/4/Info.1

Review of out of date JAMP monitoring guidelines

4.1 As part of the annual review of JAMP guidelines and related technical annexes, Germany presented the guidelines and annexes it had identified as requiring review and revision (MIME 16/4/1).

4.2 MIME discussed the revisions and updates required and agreed:

4.2.a. PAH metabolites were a biological effect to be interpreted with physiological parameters and therefore should not be moved from Appendix 13 to Appendix 4;

[4]ICES WGBEC Report 2008 CM 2008/MHC.07

4.2.b. **Denmark would revise (a) the Guidelines for Monitoring Contaminants in Biota** (Annex 2); determination of metals, incorporating the ICES WGMS 2014 (summary record Annex 10) proposal, and **(b) the Guidelines for Monitoring Contaminants in Sediments** (Annex 4); determination of metals in sediment analytical methods incorporating the ICES WGMS 2014 (summary record Annex 5) proposal;

4.2.c. **Belgium would revise the Guidelines for Monitoring Contaminants in Sediments** (Annex 4); determination of mono-, di- and tributyltin in sediments analytical methods incorporating the ICES WGMS 2014 (summary record Annex 6) proposal;

4.2.d. **to make a proposal to HASEC 2017 for a request for advice from the Marine Chemistry Working Group (MCWG) to revise the Guideline for Monitoring PFCs in water** (see §6.11, **Annex 7**). The guideline did not correspond with the formal requirements of an OSPAR JAMP guideline regarding chemical monitoring and needed to be integrated into the JAMP guideline for monitoring of contaminants in seawater (2013-03) as Technical Annex 2;

4.2.e. **to make a proposal to HASEC 2017 for a request for advice from WGBEC to revise the Guidelines on Quality Assurance for biological monitoring in the OSPAR maritime area; the guidelines for contaminant specific biological effects monitoring and the Guidelines for General Biological Effects Monitoring** (see §6.11, **Annex 8**).

4.2.f. to **consider the need for new technical annexes, e.g. for passive samples, at a future MIME meeting**.

AMAP and OSPAR monitoring guidelines

4.3 Germany reported that experts from MIME (Michael Haarich, Germany) and AMAP (Simon Wilson) had worked intersessionally to compare and identify common monitoring guidelines and the work had been reported to HASEC (HASEC 16/5/5 and 15/5/5Add.1). The intention was to work towards harmonising guidelines as appropriate. MIME recognised that this comparison could be useful in revising its own out-of-date guidelines (see §§4.1-4.2). MIME agreed to **continue collaborate with AMAP and HELCOM on guidelines that were common to those bodies and to OSPAR to work towards harmonising them, as appropriate**.

Developments of international QA programmes, QUASIMEME and BEQUALM

4.4 Thomas Maes (United Kingdom) introduced BEQUALM (16/P0007). MIME was reminded BEQUALM was originally a European-funded project that no longer received funding. WGBEC had been conducting internal ring test quality assurance for core biological effects. France added that biological effects were a voluntary approach and therefore not a priority for many countries. By moving biological effects from pre-CEMP to CEMP would revive the need for quality assurance.

4.5 The Vice-Chair of MIME (Denmark) gave a brief report on QUASIMEME activities. Meetings of the Scientific Advisory Group had been postponed and the most recent had been in January 2016. Method information codes had been added again, making it possible to deduce method differences in the future. There had been discussion on testing of mercury (AQ4) and extra material to check homogeneity was produced. For dioxins in biota, more laboratories were needed to keep QA running. There was increased interest in polyfluorinated compounds and there would be a new trial test and possibly a workshop at a

later date. For TBT in sediment, the number of laboratories was decreasing and there was a proposal for a new TBT workshop. QUASIMEME was considering making whole fish available for the scheme because WFD required whole-fish results. There was an increase in the number of participants in QUASIMEME for testing shellfish toxins. MIME noted QUASIMEME would have its 25th anniversary in 2017.

Pre-CEMP monitoring of ocean acidification

4.6 Pamela Walsham, United Kingdom, gave an overview of work at the Ocean Acidification workshop and the main outcomes (16/P0006). One of the most urgent needs was for a proficiency testing scheme or regular intercalibration exercise. A follow-up initiative was a workshop on Understanding the Impacts and Consequences of Ocean Acidification for Commercial Species and End-users (5-8 December 2016, ICES). Koen Parmentier (Belgium) had represented QUASIMEME at the ocean acidification workshop. He informed MIME that he had raised the issue of proficiency at the MCWG and MCWG had agreed to raise the issue at the QUASIMEME Scientific Assessment Board.

4.7 In conclusion MIME recognised that ocean acidification was not ready to be moved from pre-CEMP to CEMP, due to lack of proficiency testing. MIME supported QUASIMEME intercalibration work towards QA and QC. MIME agreed to **continue to ongoing work to foster the pre-CEMP monitoring and assessment of ocean acidification**; **to further develop the ocean acidification CEMP Appendix 16 towards the full CEMP**, and; **to recommend the outcomes of the ocean acidification workshop to HASEC**.

Monitoring innovation developments

4.8 Contracting Parties mentioned the following innovative monitoring developments:

4.8.a. Denmark was finishing a development project on using passive samples for monitoring metals and organics and **Denmark would provide an update report on this innovation to MIME 2017**;

4.8.b. Belgium reported it had a project using passive samplers for polar and non-polar organics and metals across multiple laboratories, for targeted and non-targeted analyses. Preliminary results were positive and **Belgium would provide an update on this innovation the work to MIME 2017**.

Mercury guidance and development of assessment criteria

4.9 HASEC had requested MIME to further develop the mercury assessment (Publication 2016-679) with a guidance document, and consider the feasibility and implication of adopting a BAC approach. Ireland presented an overview of work that had been carried out on mercury EAC-EQS comparison and proposed next steps (16/P0002 and MIME 16/4/3(L)). MIME agreed **Ireland would lead in drafting a short summary guidance for mercury with graphics to illustrate the key conclusions of the EQS-EAC comparison, in time for HASEC 2017**. The development of assessment criteria for mercury was discussed under Agenda Item 3 (§§3.7-3.11).

Update OSPAR Agreement 2009-02 and publication 2009-461[5]

[5]OSPAR Agreement number 2009-2 'Agreement on CEMP Assessment Criteria for the QSR 2010', and OSPAR Publication 2009-461 'Background Document on CEMP Assessment Criteria for QSR 2010'

4.10 MIME recalled that Agreement 2009-02 and the supporting background document 2009-461 on assessment criteria were used to underpin assessments for the QSR2010. MIME discussed whether these documents should be updated, given they underpinned the QSR2010 and the criteria used at that time should not be lost. The Vice-Chair of MIME proposed drafting a new Agreement on the assessment criteria used to underpin the IA 2017. Most of this information was already captured in the audit trail (HASEC 16/6/6) and the web-tool help-files. However, the original reference source for two ER-L values of PAH in sediment had not been found. After discussion MIME agreed **the ER-L assessment values for Benzo[*ghi*]perylene and Indeno[*1,2,3-cd*] pyrene for PAH in sediment would not be used in the PAH in sediment common indicator**. **The Vice-Chair of MIME, supported by Rob Fryer, would work intersessionally to draft a new Agreement on assessment criteria for the IA 2017, for consideration by HASEC 2017**.

Agenda Item 5 – Review and revision of the Coordinated Environmental Monitoring Programme (CEMP)

MIME 16/5/1, MIME 16/5/2, MIME 16/5/3, MIME 16/5/Info.1

5.1 The Secretariat presented an updated version of MIME-related CEMP guideline document (MIME 16/5/1) for review. MIME noted references and links to the online help-files in the assessment web-tool were included. MIME discussed the need to specify the environmental data reporting format ERF3.2, with reference to MSTAT and MPROG and a small drafting group[6] drafted new text for inclusion in section 3.7 (**Annex 5**). The Secretariat presented the MIME-related CEMP appendices (MIME 16/5/2) for review. These were revised by Contracting Parties using the updates they had provided earlier in the meeting on changes to national monitoring programmes (§2.3) (**Annex 6**). MIME agreed to **recommend the revised CEMP guideline and appendices to HASEC for update of Agreement 2010-01**[7] **by OSPAR 2017**.

5.2 The Secretariat presented the pre-CEMP appendices that needed to be migrated into the new extended format (MIME 16/5/3). MIME agreed the following **Contracting Parties would lead on drafting extended versions of the pre-CEMP appendices in time for HASEC 2017**, using the explanatory notes (MIME 16/5/Info.1):

5.2.a. **Ireland, Planar PCBs**;

5.2.b. **Denmark, alkalyated PAHs**;

5.2.c. **Norway, PFOS**;

5.2.d. **Sweden, Polychlorinated dibenzodioxins and furans**;

5.2.e. **France, PAH and metal-specific biological effects**;

5.2.f. **United Kingdom, general biological effects**.

[6]Stefan Schmolke (DE), Martin M. Larsen (DK) & Brendan McHugh (IE)

[7]OSPAR Coordinated Environmental Monitoring Programme (CEMP). Update 2015.

Agenda Item 6 – Wrap-up on scientific advice, and on data handling by ICES

MIME 16/6/1, MIME 16/6/2(L)

CEMP data handling issues

6.1 ICES presented issues it had identified with data handling (MIME 16/6/1). The new station dictionary web-based application (http://vocab.ices.dk/Request/) was demonstrated. Suggestions for features to improve working with the facility were discussed and addressed during the meeting.

6.2 ICES gave an overview of the simplified reporting format and issues with partial submissions that risked over-writing previous full submissions. ICES explained the checks that were being put in place to address these issues. ICES reported that no Contracting Parties had used the option of submitting contaminants and biological effects data in the same format. It was explained that all data could be submitted in the simplified format including uncertainty information. The file could be converted to the ERF3.2 format by submitters (http://vocab.ices.dk/DataConversion/) and could be screened through DATSU (http://dome.ices.dk/datsu), so that all checks could be carried out before submitting data.

6.3 ICES reported that there had been 488 submissions in 2016, representing ~40% increase compared with 2015. However, 33% of submissions were after the 1 September 2016 deadline. There had also been more than 200 requests for new codes. ICES informed MIME that some data reporters had submitted 'fake' files in order to meet the deadline. ICES explained that it was time-consuming for it to handle such submissions and requested countries did not use 'fake' files. Contracting Parties were kindly asked to report to ICES (accessions@ices.dk) if national submissions were going to be late, instead of submitting 'fake' files.

6.4 ICES presented proposals for checking outlier data (MIME 16/6/2, §5a-d) and produced some examples of how the proposed procedures would operate. MIME was reminded that this was not primarily intended to be a data screening check on new data; rather it would be a continuous check on data already in the database. Subsequently, the intention was that it would be used to screen new data. Flagging was discussed and the intention was that in the future ICES would aim to develop a graphic tool so that the data-submitter could identify and exclude outliers by clicking on the graphic. This would be achieved in a step-wise process e.g. with non-interactive graphic and table in the first instance. MIME agreed **ICES would conduct a trial run on outlier data of CBs in sediment and metals in biota for consideration by MIME 2017**.

6.5 ICES demonstrated the BETA version of the quality control check database (QC Database), which was newly available online (http://gis.ices.dk/QC/), available online and invited feedback. MIME agreed to ICES' request for **Contracting Parties to inform their data-submission centres of the QC Database availability, as soon as possible**.

6.6 MIME agreed **Contracting Parties should re-populate the long names for monitoring stations in the relevant field in the Station Dictionary database, as soon as possible**. A bulk upload would be provided for this task if the long names were sent directly to ICES.

6.7 For assessment purposes the Netherlands, Norway and the United Kingdom grouped some monitoring stations. ICES recognised it would need to communicate bilaterally with Contracting Parties with regard to grouping stations via the Station Dictionary. It was intended that in 2017 ICES would develop functionality to group stations for assessment purposes. MIME agreed that **ICES would pilot this work intersessionally with Norwegian stations**, before it was rolled-out **and would report back to MIME 2017**.

6.8 The United Kingdom informed MIME that the current CEMP web-tool, which relied on Adobe Flash, was no longer being supported by some Internet browsers and that consequently the online application would need to be rewritten in html5 (§3.1). ICES demonstrated the EUTRO-OPER online assessment tool (http://ocean.ices.dk/eutro-oper/), which had been built for the HELCOM Eutrophication assessment under the EUTRO-OPER project (http://www.helcom.fi/Documents/EUTRO-OPER%20project%20report.pdf). In 2016 under the Baltic Boost project, ICES started working with HELCOM to make a similar tool for its hazardous substances assessment. Therefore there was great potential to capitalise on this initiative as there was clear synergy, and indeed many MIME experts were already involved in the HELCOM tool development.

6.9 ICES and MIME discussed the potential for developing and expanding the HELCOM Baltic Boost contaminants assessment framework to support the CEMP assessment web-tool in the future. MIME noted the HELCOM tool was based on R-scripts and html, and therefore the R-scripts already developed by MIME that underpin the assessment methodology could be utilised in such as framework relatively easily. Both MIME and ICES note that keeping the modular R-scripts within an online repository such as GitHub (see https://github.com/ices-tools-prod) would allow MIME to keep developing and documenting the methodology independently of the web-tool for viewing the assessment data and results. MIME agreed **to invite HASEC to consider a draft request for resourcing ICES to develop and expand the Baltic Boost Hazardous substances framework** (**Annex 9**).

6.10 On behalf of all Contracting Parties the Vice-Chair thanked ICES its work in handling data submissions and liaising with data-submitters. ICES' hard work, constructive dialogue and flexible working approach were greatly appreciated.

Draft requests for ICES advice

6.11 MIME drafted four requests for ICES advice, in the following order of priority:

6.11.a. ICES to provide long-term support for the CEMP assessment web-tool (**Annex 9**);

6.11.b. WGBEC to revise the Guidelines on Quality Assurance for biological monitoring in the OSPAR maritime area; the guidelines for contaminant specific biological effects monitoring and the Guidelines for General Biological Effects Monitoring (**Annex 8**);

6.11.c. WGMS to review existing background concentrations for metals in sediment, including mercury, taking into account any new dated sediment cores available and provide suggestions for the analysis of uncertainty to produce a BAC (**Annex 10**);

6.11.d. MCWG to review existing background concentrations for metals in biota, including mercury and provide suggestions for the analysis of uncertainty, to produce a BAC (**Annex 7**);

6.11.e. MCWG to review and revise the Guideline for Monitoring PFCs in water (**Annex 7**).

Agenda Item 7 – Election of Chair and any other business

7.1 Ireland proposed Dag Hjermann (Norway) to be the incoming Chair of MIME. All the Heads of Delegation elected Dag Hjermann by acclamation. Dag Hjermann accepted the nomination, subject to confirmation by his national administration. Martin M. Larsen (Denmark) agreed to continue as Vice-Chair

of MIME for Assessment. MIME did not select a new Vice-Chair of Monitoring, but Contracting Parties were invited to consider volunteering for the position in time for MIME 2017.

Agenda Item 8 – Adoption of the Summary Record

8.1 MIME reviewed the part of the HASEC Work Programme for 2016-2017 related to its activities and agreed to forward the proposal at **Annex 11** to HASEC for consideration when establishing its draft Work Programme for 2017-2018**.**

8.2 All Contracting Parties were urged to submit their data by 1 September deadline next year. MIME agreed to **invite HASEC to consider making the data submission deadline more strict**, e.g. by informing Contracting Parties that any data submitted after 1 September would not be included in the CEMP web-tool for assessment that year.

8.3 The Summary Record of the meeting was adopted in written procedure.