Marine Chemistry Working Group (MCWG)

2018/MA2/HAPISG05 The **Working Group on Marine Chemistry** (MCWG), chaired by Koen Parmentier, Belgium, will work on ToRs and generate deliverables as listed in the Table below.

	Meeting dates	Venue	Reporting details	Comments (change in Chair, etc.)
Year 2019	4–8 March	Evora, Portugal		Meeting in association with WG on Marine Sediments (WGMS)
Year 2020	2–6 March	Lisbon, Portugal		Joint meeting with WGMS and WGBEC
Year 2021			Final report by DATE	Venue preferably joined with WGMS

ToR descriptors

ToR	Description	Background	Science Plan codes	Duration	Expected Deliverables
a	Assemble and synthesise new information on chemical substances of emerging concern in ICES area and beyond, including residuals in higher trophic level marine species.	Provide new data – link to WGBEC- Eco-toxicology and analytical methods – sampling, extraction, detection, issues, Quality Assurance (QA/QC). Check of EU Water Framework Directive (WFD) watch list and identify substances because of increasing international awareness. This includes toxins from algae blooms.	2.1; 4.1; 6.1	3 years	Reporting to ICES, including: - synthesizing new evidence, - identification of gaps, - emphasis on concern for monitoring, - non-target screening, especially for endocrine disruptors.
b	Develop novel monitoring strategy for compliance and screening tools.	The use of passive samplers (PS) increases, and sensors are in use e.g. in Ferrybox systems, and The EU GRACE project has generated comparison and validation data regarding in situ fluorescence detection of dissolved oil.	3.1; 3.3; 6.1	3 years	Reporting to ICES on use and development of PS (compliance monitoring in relation to Environmental Quality Standards (EQS)). Collect QA/QC and validation for in-situ sensors, (incl. oil, pH, CO_2 and nutrients) and screening methods.
c	Report new	Availability of high	3.1; 3.3	3 years	Reporting to ICES:

	developments in QUASIMEME (Quality Assurance of Information on Marine Environmental Monitoring), and provide information on other proficiency testing schemes with relevance to MCWG.	quality proficiency testing is vital to produce reliable results.			- provide guidance for proficiency testing, - development of test materials for new compounds.
d	Review and report of availability of new data, analytical methods and QA/QC on Ocean Acidification (OA) in coastal/shelf seas and establish link with eutrophication.	OA and understanding its importance, quantification of its impact is crucial for a variety of scientific disciplines, and for ocean health. OA is a voluntary paremeter in OSPAR CEMP but developments in QC supports are required.	1.2; 2.1; 3.2; 4.1, 6.1	3 years	Reporting to ICES: - technical guidance document on sampling, sample handling and storage, - preparation of in-house reference material for testing and validation.
e	Review and analyse QUASIMEME assessment of chlorophyll data, in particular, regarding comparability of data and potential implications for existing measurement guidance.	Solve problems for data comparability that exist for decades concerning chlorophyll measurements.	1.3; 2.1	Year 1	Publication in TIMES: manuscript on chlorophyll determination methods.
f	Review emerging issues, and international and national regulations related to contaminants and biotxons in seafood.	Seafood is an important dietary source of many contamminants. Several EQS are derived from human health risks. Although this is not ideal for marine environmental monitoring, follow-up is imperative.	2.1; 5.6; 6.1; 6.3	3 years	Reporting to ICES: - reference document on food and feed regulations, - overview on biotoxins, - monitoring emerging issues with respect to contaminants in seafood.
g	Review of the evidence of of man-made structures (such as platforms, wind farms, buoys, pipelines, cables and ship wrecks) and shipping (such as exhaust gases, spills and scrubbles) on the marine environment as a source of chemical pollution.	Amount of constructions is ever increasing. Some protective compounds used are new to the marine environment. Application is directly into the marine systems and requires follow-up and identification of knowledge gaps.	2.1; 4.5; 6.1	3 years	Review manuscript
h	Summarise and synthesise relevant	MCWG is active in trying to interconnect different	2.2; 2.5; 4.1	3 years	Publication in TIMES, contributing to WGMS

	information from relevant ICES expert groups on the interface with MCWG: WGMS, WGBEC, WGEEL, JWGBird, WGOH, WGPME, WGML.	WGs. The intention is to have joint meetings with WGMS, there is a direct link concerning dredging activities.			dredge spoil report.
i	Review and report developments in international legislative acts (incl. Marine Strategy Framework Directive (MSFD) and WFD), in particular regarding emerging and high-priority hazardous substances and associated EQS values, conversion factors and other closely related issues.	Follow-up on this matter is key in order to guide the development process for consistent application of environmental quality criteria in monitoring prgrammes. Follow-up on JRC list of chemicals that are being monitored by different countries.	3.2; 6.1	3 years, on a year by year basis.	Reporting to ICES: - setting EQS or Environmental Assessment Criteria (EAC) and conversion factors, - review manusript on emerging contaminants and risks involved.
j	Collect regional-level information to determine Trophic Magnification Factor (TMF) and Trophic Level (TL)	The use of generic TMF and TL, as required by MSFD to calculate concentrations to compare with EQS_{biota} gives rise to unacceptable inflation of uncertainty.	2.1; 6.1; 6.3	3 years	Reporting to ICES: overview of region-specific TMF, TL for target organisms and determination of highest TL.
k	Update and summarise on recent advances in nutrient analysis technique and observed nutrients trends in the marine environment.	Eutrophication reductive measures need to be followed; recent improves in techniques allow better QA for low values.	1.2; 1.3; 2.1; 3.3	3 years	Reporting to ICES
l	Respond to potentially incoming advisory requests	Science or advisory requirements.	3.1; 6.1; 6.5; 6.6	3 years, on a year by year basis.	Advice products, as appropriate

Summary of the Work Plan

Year 1	Complete ToR e). Respond to requests under ToRs i), l). Progress work towards completion of the remaining ToRs.
Year 2	Respond to requests under ToRs i), l). Progress work towards completion of the remaining ToRs.
Year 3	Respond to requests under ToRs i), l). Report on the remaining ToRs.

Supporting information

Priority	This group maintains an overview of key issues in relation to marine chemistry, both with regard to chemical oceanography and contaminants. MCWG provides input across the field of marine chemistry, which underpins the advice given by ICES, and also supports the work of national and international collaborative monitoring programmes, e.g. within OSPAR.
Resource requirements	The research programmes which provide the main input to this group are already underway, and resources are already committed. The additional resource required to undertake additional activities in the framework of this group is negligible.
Participants	The Group is normally attended by some 15-20 members and guests.
Secretariat facilities	Participation using electronic means should be examined and encouraged.
Financial	No financial implications.
Linkages to ACOM and groups under ACOM	There are no obvious direct linkages.
Linkages to other committee or groups	WGMS (the aim is to have joint meetings), WGBEC, WGML. OSPAR ICG-OA, from 2019 on (first meeting Jan 2019, Aberdeeen, UK) replacing the OSPAR/ICES study group on Ocean Acidification (SGOA) ICES Data Centre
Linkages to other organizations	The work of this group is closely aligned with EU working groups under the Water Framework Directive (e.g. Working Group on Chemicals) and EU expert networks with regard to contaminants under the MSFD. Specific agenda points will be directly relevant for QUASIMEME. The group provides the basis for some advice to OSPAR.