

Working Group on Biological Effect of Contaminants (WGBEC)

2015/MA2/SSGEPI03 The Working Group on Biological Effects of Contaminants (WGBEC), chaired by Bjørn Einar Grøsvik, Norway, and Ketil Hylland, Norway, will work on ToRs and generate deliverables as listed in the Table below.

	MEETING DATES	VENUE	REPORTING DETAILS	COMMENTS (CHANGE IN CHAIR, ETC.)
Year 2016	7-11 March	Lisbon, Portugal	Interim report by 15 May to SSGEPI	
Year 2017	13-17 March	Reykjavik, Iceland	Interim report by 1 May to SSGEPI	
Year 2018	9-13 April	Calvi, Corsica, France	Final report by 1 May to SCICOM	

ToR descriptors

ToR	Description	Background	Science Plan topics addressed	Duration	Expected Deliverables
a	Review effects of chronic oil exposure on marine organisms (desk study)	Oil pollution is one of the major chemical and physical challenges for coastal (and to some extent offshore) marine ecosystems worldwide. WGBEC has a unique competence in this field, having contributed to developing guidelines for OSPAR and individual countries concerning monitoring, as well as performing research (see reference list for the group. Although has been shown that early life stages of fish are particularly susceptible to oil pollution, there is limited understanding of the extent to which such pollution impacts natural fish populations and virtually no knowledge of effects on invertebrate early life stages.	11, 13	year 2	Manuscript submitted to a peer-reviewed scientific journal
b	Review available studies on marine seabird ecotoxicology (desk study)	Seabird populations are decreasing worldwide and there is concern that chemicals may be at least partly involved. WGBEC has members that have been and are involved in research on effects of contaminants on seabirds. There is no parallel activity elsewhere in the scientific community and there is certainly a need to summarise what we know, future challenges and research directions to understand how chemicals may affect seabirds.	11, 13	year 2, 3	Summarise in annual report (yr 1) Manuscript submitted to a peer-reviewed scientific journal (yr 2)
c	Review available studies on marine mammal ecotoxicology (desk study)	WGBEC has previously not been heavily involved in research on marine mammals, but new members to the group (and some old) have ongoing projects in this area. There is a need to evaluate effects of toxic chemicals on marine mammals worldwide, not only in the Arctic or Antarctic.	11, 13	year 3	Summarise in annual report (yr 1) Manuscript submitted to a peer-reviewed scientific journal (yr 2)

d	Review effects of contaminants on community composition	There has been a long discussion as to whether community composition is sufficiently contaminant-specific to merit inclusion on a list of recommended methods for contaminant-oriented assessment. There is a clear need for further discussion on this topic, which should also involve other ICES working groups (e.g. benthic ecology).	11, 13	year 3	Section in the WGBEC report.
e	Develop methods to evaluate effects of acute spills on marine organisms (desk study)	Acute spills have conceivably different patterns of effects than diffuse, chronic inputs. This is a fundamental question in environmental science, but very important for environmental assessment. WGBEC is well placed to contribute a review and advice in this area.	11	year 2, 3	Manuscript submitted to a peer-reviewed scientific journal
f	Develop methods to evaluate effects of ocean acidification on marine organisms	Other working groups and research activities address this issue, but WGBEC is of the opinion that the group can contribute in developing a monitoring methodology.	11	year 1, 2, 3	Summarise in annual report
g	Review interactions between essential nutrients or vitamins and contaminants in marine organisms (desk study)	This is an issue which has surfaced the past decade and which may conceivably be of major importance in how contaminants affect marine organisms. WGBEC have members that are at the forefront of research in this area and hence well placed to contribute.	11	year 1-3	Summarise in annual report
h	Review progress with marine plastic ecotoxicity to marine organisms	This is another issue which is a hot research topic and with much international interest. WGBEC members are involved nationally and internationally. The group has competence on relevant issues and should keep abreast of developments.	11	year 2	Summarise in annual report
i	Review and update knowledge of environmental interactions and combined stressors in marine ecosystems (desk study)	Environmental interactions and combined effects are crucial issues in the assessment of contaminant effects. Members of WGBEC have addressed the issues over the past two decades and are in a position to provide significant contributions to the scientific community and environmental managers.	11	year 3	Summarise in annual report (yr 1) Manuscript submitted to a peer-reviewed scientific journal (yr 2)
j	Review effects of emerging contaminants on marine organisms (desk study)	This issue has been discussed at every WGBEC meeting the past decade (or more). It should be on the work plan to ensure the group is kept abreast of current developments in the field.	11	year 1	Summarise in annual report
k	Review the use of passive samplers and dosing in marine ecotoxicity studies	An issue more directly relevant to MCWG, this item is important for the development of effect-directed monitoring and testing of chemicals and hence of relevance to WGBEC. Members of the group are involved.	28	year 3	Summarise in annual report

Summary of the Work Plan

Year 1	The development of methods to assess effects of acidification is an ongoing issue, to be reported each year. Effects of emerging contaminants will be finalised (there has been activity on this issue over the last 3-year period). The group will finalise recently initialised work on interaction between contaminants and vitamins. Work will also focus on items to be reported in year 2 with status updates this year (a, b, c).
Year 2	This is an important reporting year during this 3-year cycle with a final reporting, i.e. review papers, on items a, b (chronic oil exposure, seabird toxicity), in addition to status updates for items f and h (effects of acidification and plastics).
Year 3	Final reporting (i.e. review papers) on items c, d and i (marine mammal ecotoxicology, effects on communities and interactions/combined effects) as well as status reports for ocean acidification.

Supporting information

Priority	The current activities of this Group will lead ICES into issues related to the ecosystem effects of fisheries, especially with regard to the application of the Precautionary Approach. Consequently, these activities are considered to have a very high priority.
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	None.
Financial	No financial implications.
Linkages to ACOM and group under ACOM	There are no obvious direct linkages.
Linkages to other committees or groups	There is a very close working relationship with all the groups of SSGEPI. It is also relevant to the Marine Chemistry Working Group, Working Group on Marine Sediments, Working Group on Seabirds and Working Group on Marine Mammal Ecology.
Linkages to other organization	MIME and HASEC, HELCOM, MED POL