

Benthos Ecology Working Group (BEWG)

2020/FT/EPDSG03 The **Benthos Ecology Working Group (BEWG)**, chaired by Johan Craeymeersch, the Netherlands; and Paolo Magni, Italy, will work on ToRs and generate deliverables as listed in the Table below:

	MEETING DATES	VENUE	REPORTING DETAILS	COMMENTS (CHANGE IN CHAIR, ETC.)
Year 2021	10–14 May	Online meeting		
Year 2022	TBC	TBC		
Year 2023	TBC	TBC	Final report by DATE to SCICOM	

ToR descriptors

ToR	Description	Background	SCIENCE PLAN TOPICS ADDRESSED	Duration	Expected Deliverables
A	Long-term benthic series and climate change To identify methodological issues in long-term series comparability	The need for the BEWG to work on current tools and techniques associated to the understanding of natural variability changes and climate changes onto the benthos is of importance. There is a need to review and compile methodological issues (e.g. methods, tools) associated to long-term series comparability in marine assessments..	1.1; 1.3; 1.4	Years 1-3	On track- opinion paper drafted on current methodological applications
B	Species distribution modelling and mapping To discuss and explore relevant case studies (e.g. functional mapping) and ongoing developments (modelling approaches) in this field.	BEWG will report performance of different qualitative and quantitative approaches and will consider new methods and applications , e.g. processes and functions as tools to support modelling and mapping approaches	1.6; 1.7; 1.9	Year 1-3	NEW- discussion and exploration with case study to show case applications.
C	Benthos and legislative drivers 1. To report on the use of benthic indicators and targets for management: Compatibility and complementarity 2.To report on the myths on indicators: To investigate the importance of species autecology in indicator develop-	1. Contributing to the unravelling of the EU MSFD D6 'Seafloor integrity' assessment criteria in alliance with the respective regional (OSPAR, HELCOM, Barcelona), EU TGSeabed and other ICES working groups	7.1; 3.1; 3.2	Years 1-2 Years 1-3	NEW-Position paper NEW- Research paper.

	ment and application	(WGFBIT, WGBIODIV). ICES BEWG will focus on the practical implementation of the D6 criteria for determining the benthic seafloor status on spatial scale, based on existing indicator approaches through case studies.		Years 1-2	NEW- Review paper
	3.To review the development of effective monitoring programmes, e.g. design, techniques, improvements, harmonisation and quality assessments			Years 1-2	NEW- review aper
	4.To review the development of new molecular genetic techniques and the application of the methods for biodiversity and environmental assessments				
D	Benthic biodiversity and ecosystem functioning	Disentangling the link between biodiversity and ecosystem functioning is currently considered to be key to fully understand the health of marine ecosystems. This topic hence became a cross-cutting theme since the BEWG 2012 meeting. The BEWG will therefore review and identify benthic indicators to reflect the link between biodiversity and ecosystem functioning and review how ecological function and diversity relates to different parts of the benthic communities at different spatial scales, taking account of e.g. ecological processes and biological traits. BEWG will also scope for research on the functional diversity of macrobenthos in relation to ecosystem functioning.	2.2; 2.3; 2.4		
	1. To report on the ongoing case studies to assess ecological responses across sediment gradients.			Years 1-2	ONGOING-Research paper to report on a selected case study.
	2. To consider new functional indicator needs to support MSFD requirements.			Year 1-3	ONGOING-Viewpoint paper
E	Benthic biodiversity and conservation: to review the role of benthic ecology in MPAs	Understanding ecological issues associated to the development/proposal of MPAs and how effective MPAs are going to be for the conservation of priority benthic species is key to support conservation and management strategies. This TOR is relevant with regards to ongoing issues (i.e. management measures) being applied within MPAs. This work brings understanding to safeguard the species in need of protection, creating further repercussions to the	6.1; 6.2; 6.4	Years 1-3	NEW- Review paper
	To review the role of benthic ecology, conservation in relation to ongoing issues (e.g. fisheries, NNIS, etc.) in relation to Marine Protected Areas (MPAs)				

ecosystem function and processes in specific habitats and species.

This ToR will consider issues associated with conservation/restoration, Autecological/environmental as well as human issues.

Summary of the Work Plan

Year 1	ToRs a., b.1, c.1-4, d.1-2, e.1.
Year 2	ToRs a., B.1, C.1-4, D.1-2, e.1.
Year 3	ToRs A., B.1, C.1-4, D.1-2, e.1.

Supporting information

Priority	The current activities of BEWG will continue along the main priority within BEWG ToRs, based on: long-term series and climate change, benthic indicators and EU directives, and species distribution modelling, and one cross-cutting (horizontal) axis on benthic biodiversity and ecosystem functioning (including issues directly in connection to MPAs). The BEWG work and TORS are aligned with the ICES Science Programme and are of high priority. The BEWG are active contributors and aim to report their outcomes directly to ICES in their annual report, Biodiversity highlights and in parallel as peer reviewed literature. Some of the outputs will be submitted to ICES JMS, Ecological Indicators, Marine Pollution Bulletin, etc.)
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 20-30 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 possibility for interaction of several ICES expert groups, among which WGBIOD, WGCEA, WGDEC, WGVMS, WGECO, WGMHM and WGEXT.
Linkages to other organization	The group has had also interaction with OSPAR IGC-COBAM.
