

## Working Group on Biodiversity Science (WGBIODIV)

**2018/MA2/EPDSG01** The Working Group on Biodiversity Science (WGBIODIV), chaired by Christopher Lynam, United Kingdom, and Andrea Belgrano, Sweden, 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 February	Copenhagen, Denmark		
Year 2020	10–14 February	Barcelona, Spain		
Year 2021			Final report by	

### ToR descriptors

TOR	DESCRIPTION	BACKGROUND	<a href="#">SCIENCE PLAN CODES</a>	DURATION	EXPECTED DELIVERABLES
a	<p>Test the benthic response indicator:</p> <p>Capacity to support formal assessment and management advice</p> <p>Use the indicator to explore its effectiveness in different disturbance/environmental change scenarios</p> <p>Explore the utility of the indicator in a broader geographical context</p>	<p>In the previous three-year term WGBIODIV concluded that indicators to assess biodiversity are not working due to the lack a theoretical foundation.</p> <p>WGBIODIV addressed this problem by designing a trait-based sensitivity indicator of benthic communities. For example, establishment of pressure-state relationships, validation of indicator calculations and evaluation against the WGBIODIV indicator quality criteria is still pending. Indicator testing is the logical next step following the successful completion of the previous ToR.</p>	2.1; 2.2; 6.1	3 years	<p>A tested and operational indicator of community response to ecosystem change will be delivered through WG report.</p> <p>Potential production of a peer review paper.</p>
b	<p>Investigate mechanisms linking trophic guilds under contrasting levels of pressure and/or primary production in case study areas:</p> <p>Using diet/trait information, and both predator and prey abundance to estimate potential impact on prey due to consumption by predators.</p> <p>Contrast risk due to natural mortality (consumption) with risk due to fishing pressure</p>	<p>Understanding of pressure-state relationships are fundamental to indicator assessments. However, as pressure is removed through management and ecosystems begin to recover, the nature and/or strength of previously defined pressure-state relationships may change.</p> <p>Climate change effects may further modify or mask the effects of anthropogenic pressures.</p> <p>This ToR will investigate responsiveness of indicators to pressure in regional seas where demersal fishing pressure has</p>	2.2; 2.3; 2.5	3 years	<p>Identify whether recovery of ecosystem components (e.g. predatory fish) can lead to depletion of prey groups such that natural processes dominate change.</p> <p>Delivered through WG report.</p> <p>Potential production of a peer review paper.</p>

	Project change in risk for prey groups due to increase in predator abundance or shifts in community composition as predator communities recover Clearly define roles of top down control and bottom up limitation at different trophic levels	been reduced and temperature has increased.			
c	Examine the efficacy of spatial management measures as means of conserving, protecting and promoting marine biodiversity	The implementation of the management plans for the Natura 2000-sites is under way and will have substantial impacts on human activities, namely by spatial measures such as (partial) fisheries closures and marine reserves. However, the Habitat Directive addresses only a limited range of taxa i.e. excluding the majority of epibenthic species and marine fish. WGBIODIV considers that is important to know, how much the current MPA networks will contribute to the protection of these taxa.	6.1; 6.3; 6.4	3 years	Production of maps of biodiversity in selected marine regions to inform on occurrence of biodiversity and to guide spatial management for its conservation.

### Summary of the Work Plan

Year 1	Develop assessment targets for benthic response indicator; provide first analysis on trophic guilds and linkages to pressures; develop method to create and overlay single-species distributions.
Year 2	Final evaluation of benthic response indicator; progress analysis of trophic guilds vs. anthropogenic pressures; create maps of biodiversity hotspots.
Year 3	Finalise and evaluate work on trophic guild and hotspots.

### Supporting information

Priority	The current activities of this group will lead ICES into issues related to the integrated ecosystem assessments and the implementation of the ecosystem approach to marine management. 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 lies in the commitment of scientist from different member states to participate in the group.
Participants	Participation in WGBIODIV has slightly increased due to the outreach strategy of hosting meeting in Spain and Italy, thereby attracting scientist from host countries and Mediterranean area.
Secretariat facilities	None.
Financial	No financial implications.

---

Linkages to ACOM and groups under ACOM	There is a linkage to ACOM/SCICOM steering group Integrated Ecosystem assessments (IEA). The results of WGBIODIV are important to WGECO and may be of relevance for WGINOSE and WGIAB.
Linkages to other committees or groups	The outcomes of WGBIODV will be important to the ICES high priority work area 'Marine Strategy Framework Directive (MSFD)'.
Linkages to other organizations	OSPAR, HELCOM, European Commission

---