

ICES/NAFO Joint Working Group on Deep-water Ecology (WGDEC)

Only experts appointed by national Delegates or appointed in consultation with the national Delegates of the expert's country can attend this Expert Group.

2020/OT/HAPISG02 The Joint ICES/NAFO Working Group on Deep-water Ecology (WGDEC), chaired by Laura Robson, UK, will meet in Flødevigen Research Station, IMR, Norway, 7–11 June 2021 to:

- a) Collate new information on the distribution of vulnerable habitats as well as important benthic species and communities in the North Atlantic and adjacent waters, archive appropriately using the ICES VME Database, and disseminate via the Working Group report and ICES VME Data Portal;
- b) Provide all available new information on the distribution of vulnerable habitats (VMEs) in the NEAFC Convention Area. This should also include information on the distribution of vulnerable habitats in subareas of the Regulatory Area that are closed to fishing for other purposes than VME protection. In addition, provide new information on location of habitats sensitive to particular fishing activities (i.e. vulnerable marine ecosystems, VMEs) within EU waters;
- c) To support the use of the VME weighting algorithm outputs within future ICES advice, and considering known limitations, identify and trial approaches to improve the weighting algorithm method, and continue to explore alternative options for identifying areas where VME are likely to occur;
- d) Review existing definitions of, and ongoing work to define, VMEs to develop a clear procedure for combining the FAO criteria for the assessment of taxa as VME indicators and develop pragmatic definitions of VME habitats for specific use by WGDEC and the ICES VME database.
- e) Assess the outcomes and proposed next steps made by WKPHM (and the review of the report) on the use of predictive habitat models in ICES advice and identify what role WGDEC could have over the next few years in implementing these steps and furthering the use of predictive habitat models to support ICES advice.

WGDEC will report by 18 June 2021 for the attention of ACOM.

Supporting Information

Priority	The current activities of this Group will enable ICES to respond to advice requests from a number of clients (NEAFC/EC). Consequently, these activities are considered to have a high priority.
Scientific justification	<p>ToR [a]</p> <p>The Joint ICES/NAFO Working Group on Deep-water Ecology undertake a range of Terms of Reference each year; the scope of these cover the entire North Atlantic, and include aspects such as ocean basin processes. Therefore, collating information on vulnerable habitats (including important benthic species and communities) across this wide geographic area (and adjacent waters) is essential. To this end, a VME data call will be run in 2021, facilitated by the ICES Data Centre. Data will be quality checked/prepared at least one month in advance of WGDEC 2021 by the ICES Data Centre and a newly formed intersessional subgroup of WGDEC. New data will be incorporated into the ICES VME database and data portal. This ToR includes any development work on the ICES VME database and data portal, as identified by WGDEC, with support from the ICES Data Centre.</p> <p>ToR [b]</p> <p>This information and associated maps are required to meet the NEAFC request “to continue to provide all available new information on distribution of vulnerable habitats in the NEAFC Convention Area” as well as part of the European Commission MoU request to “provide any</p>

new information regarding the impact of fisheries on sensitive habitats". The location of newly discovered/mapped sensitive habitats is critical to these requests.

ToR [c]

The VME weighting algorithm was developed in 2015/2016 to utilise data in the ICES VME database from a range of survey types, to determine likelihood of VME presence and associated confidence. However, a number of limitations to the weighting algorithm have been identified, including those detailed in the WGDEC 2017 report. Furthermore, in 2019, new methods of determining VME likelihood were explored via kernel density estimation (KDE) and predictive habitat models. This ToR will focus on developing improvements to the method to the VME weighting algorithm, and will further explore alternative methods for assessing likelihood of VME presence, including considerations of outputs of the WKPHM.

ToR [d]

VMEs are currently defined within ICES work following the five FAO criteria; uniqueness/rarity; functional significance; fragility; slow recovery; and structural complexity. When multiple criteria are used, a clear procedure for deciding how to assess these in combination is needed, to avoid subjectivity introduced by individual understanding. Furthermore, to increase confidence in use of accumulated information on VME distributions from the ICES VME database, clearer definitions of the VMEs need to be developed. This ToR will therefore focus on the review of existing definitions of, and ongoing work to define, VMEs to develop a clear procedure for combining the FAO criteria for the assessment of taxa as VME indicators and to develop pragmatic definitions of VME habitats for specific use by WGDEC and the ICES VME database.

ToR [e]

WKPHM met 1-5 Feb 2021 and developed standards for data and modelling approaches for predictive habitat models (PHMs) that could be accepted for use in supporting ICES advice, together with a set of criteria for model outputs that would be most useful in communicating ICES advice. Recommendations and next steps for this work were proposed, and these need to be reviewed by WGDEC to establish how the use of PHMs in ICES advice could be taken forward.

Resource requirements	Some support will be required from the ICES Secretariat.
Participants	The Group is normally attended by some 15–20 members and guests.
Secretariat facilities	None, apart from WebEx and SharePoint site provision.
Financial	No financial implications.
Linkages to advisory committees	ACOM is the parent committee and specific ToRs from WGDEC provide information for the Advice Committee to respond to specific requests from clients.
Linkages to other committees or groups	While there are currently no direct linkages to other groups, WGDEC should develop stronger links (ideally through the establishment of joint Terms of Reference) with WGSFD, WGMHM, WGDEEP and WGFBIT.
Linkages to other organizations	As a Joint ICES/NAFO group, the work of this group links to work being undertaken by Working Groups under the NAFO Scientific Council; specifically, WGESA.