New information regarding vulnerable habitats in the NEAFC Regulatory Area

Advice summary

ICES advises to maintain the existing closed areas to protect vulnerable marine ecosystems (VMEs). No additions to, or extensions of the existing closed areas to protect VMEs in the NEAFC Regulatory Area are advised at this time.

Further records of VME indicators were obtained inside and around the Haddock Box on the Rockall Bank. Assuming that the Haddock Box remains closed, ICES does not consider that any changes are needed to the boundaries of NEAFC bottom-fishing closures in this area.

ICES notes that fishing activity is taking place outside of the existing NEAFC bottom-fishing areas in the Barents Sea and the Mid-Atlantic Ridge.

Request

NEAFC requests ICES to continue to provide all available new information on distribution of vulnerable habitats in the NEAFC Convention Area and fisheries activities in and in the vicinity of such habitats, and provide advice relevant to the Regulatory Area and the above mentioned objectives.

Elaboration on the advice

There were no new VME habitat or VME indicator records provided within the northwestern and southwestern Rockall closure areas on the Rockall Bank. However, inside and around the Haddock Box on the Rockall Bank within the NEAFC Regulatory Area, 34 new VME indicator records (out of a total of 169 VME habitat and indicator records in the area) were provided.

The VME closures on the eastern side of Rockall Bank were generally well observed, although there is some suggestion of vessels with no registered gear type operating within the Haddock Box, particularly in the northwestern quadrant (see Figure 7). Vessels registered as using static gears work outside this area. South of Rockall Bank, trawling continues to be better confined to the existing bottom-fishing area. Static gears now appear to be absent from the small areas at the southern end of the bank where they were observed last year.

Hatton Bank has ten new VME indicator records (out of a total of 20 VME habitat and indicator records in the area) based on historical (re-submitted) data, all within the existing boundaries and with no extensions required.

The closures to the northern side of Hatton Bank are generally well observed. A number of bottom trawl tows appear to extend into the closed area at the easternmost part and along the northernmost part of the existing bottom-fishing area; however, these incursions are limited (see Figure 8). The highest levels of fishing are closely associated with the boundary of the closed areas. There was little evidence of vessels using static bottom-contacting gears, or activity of vessels without a registered gear type, in this area. Closures on the western side of the bank are also well observed.

In 2019, no new VME indicator or habitat records were received by ICES for the Reykjanes Ridge.

As in previous years, the pattern of activity around the Reykjanes Ridge is uncertain. A high proportion of this activity takes place in waters of depth greater than 3000 m which is too deep to represent bottom-fishing activity. It is believed to be vessels targeting mid-water redfish being miscoded in the database. One potential area of actual bottom-fishing is still seen to the southeast of the Mid-Atlantic Ridge (Figure 1). The seabed in this area is at depths around 1300–1500 m.
In 2019, no new VME indicator or habitat records were received by ICES for the Mid Atlantic Ridge.

As seen in the previous two years, bottom-trawling activity appears to be taking place on an unnamed seamount to the south of the Mid-Atlantic Ridge (MAR) closure, outside the existing NEAFC bottom-fishing area (see black arrow, Figure 2). Slightly further south, bottom trawling takes place inside the existing bottom-fishing area, as well as on a seamount to the west of the Olympus knoll (see red arrow, Figure 2). The fishing observed last year on the Chaucer seamounts to the south, including within the southern MAR (C) closure area, is not evident this year.
In 2019, ICES received 49 new sponge VME indicator records for the Barents Sea within the NEAFC Regulatory Area. However, no VME habitat records were submitted. This is the first time VME indicator records have been submitted to the ICES VME database for this region (Figure 6).

Fishing activity is most intense north and east of the Barents Sea area, within the existing fishing areas, for both bottom trawling and where no gears were reported. To the north of the NEAFC Regulatory Area 3 (i.e. the “Barents Sea loop hole”), there is some suggestion that activity is expanding westward beyond the existing NEAFC bottom-fishing area, for vessels with no reported gear type (see red arrow, Figure 3). Static gears appear not to be used in this area.
Figure 3  VMS pings for bottom-contacting gears (orange) and no recorded gear (black) within the NEAFC Regulatory Area 3 (Barents Sea loop hole) and the existing NEAFC bottom-fishing area , overlain with the outputs of the VME Index (the likelihood of encountering a VME within each grid cell, ranging from low to high). The red arrow indicates where bottom trawling appears to be taking place outside the existing NEAFC bottom-fishing area.

NEAFC VMS data supplied to ICES

Despite improvements by NEAFC through the inclusion of data that allow catches to be linked to vessels, ICES still notes several systematic errors in the quality of VMS data supplied by NEAFC:

- VMS data supplied by NEAFC to ICES contained errors in reported vessel speeds; these data are used by ICES to determine if a vessel is fishing or not. There are also errors in decimal places, but not in a consistent manner across the dataset.
A large proportion of vessels were found to have no gear specified and the number of gear types reported was low compared to previous years.

The systemic issues with the gear coding of vessels trawling for redfish in midwater over the Reykjanes Ridge also continue within the NEAFC VMS data.

The inclusion of VME indicators is the basis for the detection and representation of VME habitats. ICES uses VME indicators to calculate a vulnerability index for the VME habitats. Three vulnerability classes are presently in the classification (low, medium, and high). More refinement and testing of the method is required before the VME vulnerability index classes can be finalized for use in assessing the likelihood of VME occurrence.

Suggestions

In light of the issues with NEAFC VMS data supplied to ICES mentioned above, ICES recommends that NEAFC implement a QC (quality control) procedure similar to the one used by ICES when receiving VMS and logbook submissions from countries. This would ensure feedback to data submitters, allowing them to become aware of errors and re-submit the corrected data. ICES also recommends that the gear coding of the VMS data be improved by including the gear type (e.g. bottom trawl, setnet, mid-water trawl) so as to provide the link between VMS and gear type data. This would improve the quality of data and its subsequent availability to ICES for the provision of advice.

Basis of the advice

New records of VME indicators on Rockall Bank have been added to the ICES VME database (Figure 4). There are 17 new records of stony coral, sponge, gorgonian, and sea-pen VME indicators outside both the existing VME closures and the Haddock Box on the Rockall Bank within the NEAFC Regulatory Area. However, at this time no modification to existing NEAFC closures is recommended. This is because all new records were VME indicators (with varying degree of certainty), rather than bona fide VME habitats. ICES noted that there are singular new occurrences of gorgonians and stony corals, as well as multiple occurrences of sponges and sea-pens.
Figure 4  New VME indicator records submitted in 2019 for Rockall Bank within the NEAFC Regulatory Area (new records outside the NEAFC Regulatory Area are displayed as transparent). Note, other VME indicator and habitat records from the VME database for this area are not displayed.

Historical records of stony coral VME indicators in Hatton Bank have been added to the ICES VME database (Figure 5), all within the existing closure boundary.
Figure 5  VME indicator records within the NEAFC Regulatory Area, re-submitted to the VME database in 2019 for Hatton Bank. Note: Other VME indicator and habitat records from the VME database for this area are not displayed.

New records of VME indicators were submitted for the Barents Sea within the NEAFC Regulatory Area. These are all sponge VME indicators and were the first VME indicator records submitted to the database for this region. These records showed “Low VME index” in the VME weighting algorithm and as such, no recommendations for NEAFC closures are proposed.
New VME indicator records within the NEAFC Regulatory Area, submitted to the VME database in 2019 for the North East Barents Sea.

Fishing activities in and near NEAFC closed areas

ICES plotted VMS pings, based on VMS data received in and near the Rockall Bank (Figure 7) and Hatton Bank (Figure 8 and Figure 9) closures. There were no records of such fishing near other closures. There were minor infringements into the Hatton Bank and Rockall Bank closures. Some trawling still occurs in the northwestern part of the Haddock Box and outside the fishing areas southwest of Rockall.
Figure 7  VMS pings for bottom-contacting gears (orange) and no recorded gear (black) for the Rockall Bank, overlain with the outputs of the VME index (based on all records for the area); the likelihood of encountering a VME within each grid cell (ranging from low to high); and the presence of actual VME.
Figure 8  VMS pings for bottom-contacting gears (orange) and no recorded gear (black) to the north of Hatton Bank, overlain with the outputs of the VME index (based on all records for the area); the likelihood of encountering a VME within each grid cell (ranging from low to high); and the presence of actual VME.
Figure 9  VMS pings for bottom-contacting gears (orange) to the west of Hatton Bank, overlain with the outputs of the VME index (based on all records for the area); the likelihood of encountering a VME within each grid cell (ranging from low to high); and the presence of actual VME.

Sources and references

