**Alain Biseau, Björn Steinarsson, Carl O'Brien, Christopher Zimmermann, Didzis Ustups, Els Torreele, Francisco Velasco, Harald Gjøsæter, Jákup Reinert, Jan Horbowy, Jesper Boje, Joanne Morgan, Larry Alade, Maria de Fátima Borges, Matti Salminen, Maurice Clarke, Max Cardinale, Morten Vinther, Nathalie Steins, Robert Aps, Tomas Zolubas, Yuri Efimov**

10 June 2015

**Our Ref: L.27/ACB/sv**

Subject: Call for data: information on Vulnerable Marine Ecosystems (VME) in the North Atlantic from ICES member countries from 2004 to 2014

Dear Reader,

Please find enclosed a document describing the rationale, scope and technical details of this call for data, as well as the secure use of data.
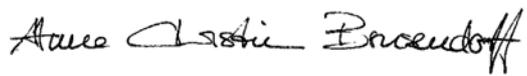
The Joint ICES/NAFO Working Group on Deep-water Ecology (WGDEC) has established a database holding information on the distribution, abundance and quality of habitats and species considered to be indicators of vulnerable marine ecosystems (VMEs) across the North Atlantic. This database aims to store and make available all known VME indicator records in the North Atlantic (covering deep water areas inside and outside national jurisdiction) for use by ICES and the wider marine community. In addition, the database also holds information on *bona fide* records of VME habitats. These are actual observations of a VME on the seabed, such as from an ROV transect. These are considered different to VME indicator records, such as bycatch of gorgonians from a fishing vessel.

Development of the database commenced a number of years ago, and is updated annually by WGDEC. The records come from a variety of sources, ranging from dedicated deep sea research cruises equipped with high resolution seabed imagery through to fishing trawl and long line bycatch records that are submitted by ICES member countries. Data mining has been productive in discovering historical records. However, in recent years, many research projects that have collected information on VMEs have come to an end, and there is a wish to adequately capture this new information within the

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ICES VME database. Therefore, this data call is aimed at datasets collected over the last 10 years.

In case of questions please contact WGDEC Chair Neil Golding (neil.golding@jncc.gov.uk) or the ICES Secretariat (carlos@ices.dk; accessions@ices.dk) for clarification.


Sincerely,


Anne Christine Brusendorff
General Secretary


**CC:** Neil Golding (Chair of WGDEC)

10 June 2015

**Data call: information on Vulnerable Marine Ecosystems (VME) in the North Atlantic from ICES member countries from 2004 to 2014**

**Rationale:**

The rationale for the call is that the Joint ICES/NAFO Working Group on Deep-water Ecology (WGDEC[1]) has established a database holding information on the distribution, abundance and quality of habitats and species considered to be indicators of vulnerable marine ecosystems (VMEs) across the North Atlantic. This database aims to store and make available all known VME indicator records in the North Atlantic (covering deep water areas inside and outside national jurisdiction) for use by ICES and the wider marine community. In addition, the database also holds information on *bona fide* records of VME habitats. These are actual observations of a VME on the seabed, such as from an ROV transect. These are considered different to VME indicator records, such as bycatch of gorgonians from a fishing vessel. Development of the database commenced a number of years ago, and is updated annually by WGDEC. The records come from a variety of sources, ranging from dedicated deep sea research cruises equipped with high resolution seabed imagery through to fishing trawl and long line by-catch records that are submitted by ICES member countries.

Data mining has been productive in discovering historical records. However, in recent years, many research projects that have collected information on VMEs have come to an end, and there is a wish to adequately capture this new information with the ICES VME database. Therefore, this data call is aimed at datasets collected over the last 10 years

**What the requested information will be used for:**

The requested information, when ingested into the VME database will have a number of important uses. The ICES VME database provides an essential resource for the some of the core work of WGDEC in informing fisheries management, such as recommending bottom fishing closures within NEAFC (North East Atlantic Fisheries Commission) waters to protect VMEs. WGDEC also use this extensive database of VME records to respond to requests from the European Commission to provide new information on the locations of seabed habitats sensitive to particular fishing activities. ICES will use it when providing scientifically-robust advice on the distribution of Vulnerable Marine Ecosystems (VMEs) and possible management solutions

**Temporal and Geographical scope:**

Temporal scope is for data on VMEs collected between 2004 and 2014.

The geographical scope of the data call is constrained to the ICES area, which can be viewed here: http://geo.ices.dk/viewer.php?add_layers=ices_ref:ices_areas with the exclusion of the Baltic Sea area. The ICES areas can also be downloaded here: http://geo.ices.dk/download.php?dataset=ices_ref:ices_areas

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[1] http://ices.dk/community/groups/Pages/WGDEC.aspx

**Legal scope:**

Generically, all the governments and intergovernmental commissions requesting and receiving advice from ICES and all contracting parties to OSPAR and HELCOM have signed international agreements under UNCLOS 1995 Fish Stocks agreement article 5 and 6 to incorporate fisheries impacts on other components of marine ecosystems and WSSD 2002 article 30 to implement an ecosystem approach in relation to oceans policy including fisheries. These agreements include an obligation to collect and share data to support assessment of the impacts of fisheries on non-target species and the environment (UNCLOS FSA art 6). ICES provides annual advice on mapping the location of habitats sensitive to particular fishing activities (i.e. Vulnerable Marine Ecosystems, VMEs) to the EC and NEAFC.

**Electronic outputs:**

Data will be shown as maps within ICES WGDEC reports and ICES Advice documentation.

Data will also be visible and accessible on the ICES VME data portal. On this portal, all data will be displayed aggregated to a 0.05 x 0.05 degree grid using the approach of C-square reference XXXX:XXX:XXX:X (see Rees, 2003). When downloading, publically accessible data (as determined by the data provider) will be available in its 'raw' form. Meanwhile, those data classed as 'restricted' by the data provider will unavailable for download.

**How to report the data:**

| | |
|---|---|
| **Format:** | The VME database schema can be found in Annex I below. |
| **Electronic Submission:** | The data and any supporting information should be reported to accessions@ices.dk. |
| **Timing:** | The data should be submitted by 31st July 2015 |
| **Contact points:** | carlos@ices.dk; neil.golding@jncc.gov.uk; accessions@ices.dk |

**References**

Rees, T. 2003. "C-square s", a new spatial indexing system and its applicability to the description of oceanographic datasets. Oceanography, 16(1): 11–19.

# Annex 1: VME database schema

Note: in the 'Obligation' column, M stands for mandatory, O stands for optional and C stands for conditional (i.e. conditional on information being provided in the previous fields)

| FIELD NAME | FIELD TYPE | OBLIGATION | DESCRIPTION | GUIDANCE |
|---|---|---|---|---|
| WGDECGUI | Text | M | Globally Unique ID for each dataset | To be created by data supplier - Follow the format: "WGDECHab" + year + 2-letter country code (corresponding to ISO 3166-1) + 1 alpha/numeric digit (different for each dataset) + "v" + version of dataset, e.g. if the UK supplied 2 datasets, they may be called WGDECHab2010UK1v1 and WGDECHab2010UK2v1. |
| Sample | Number | M | Unique number for each Indicator record | Sequential number for identifying individual records within WGDECGUI dataset |
| RecordKey | Text | M | Unique key for each Indicator record | To be created by data supplier. May be numeric, text or a combination of numbers and text, which may relate back to original data management convention for traceability. If no original data management key exists, this can be added as a sequential numeric list (1,2,3, etc.) |
| VME_Indicator | Text | C | Grouping of species/habitats used by WGDEC. | **A VME indicator must be chosen if no** *bona fide* **VME habitat type is known to occur**, e.g. a sponge from trawl bycatch. This should match the indictor list provided below. If the record is known to occur within a VME habitat type, leave this field blank.<br><br>Choose from:<br>• Black coral<br>• Cold Seeps<br>• Cup coral<br>• Gorgonian<br>• Hydroid<br>• Lace coral<br>• Oceanic ridges with hydrothermal vents/fields<br>• Sea-pen |

| FIELD NAME | FIELD TYPE | OBLIGATION | DESCRIPTION | GUIDANCE |
|---|---|---|---|---|
| | | | | • Soft coral<br>• Sponge<br>• Stony coral |
| VME_HABITAT_TYPE | Text | C | VME habitat types used by WGDEC. | **A VME habitat type should be chosen if the record occurs within a** *bona fide* **VME habitat**, e.g.from a ROV transect surveying a cold-water coral reef. The 'VME_Indicator' field should be left blank. |
| | | | | All datapoints representing the known extent of a VME habitat type along a transect or tow should be recorded within one line of the database (e.g. a video tow split into sections of cold-water coral reef; bathyal rock; cold-water coral reef, would represent two VME habitat records of cold-water coral reef in the database).<br>Choose from:<br>• Cold-water coral reef<br>• Coral Garden<br>• Deep-sea Sponge Aggregations<br>• Seapen fields<br>• Tube-dwelling anemone patches<br>• Mud and sand emergent fauna |
| VME_HABITAT_SUBTYPE | Text | O | VME sub-habitat types used by WGDEC | If **no** 'VME_habitat_type' is filled in, this field should be left blank. If VME_habitat_type is filled in, this field is optional.<br>Choose from:<br>• *Lophelia pertusa* reef<br>• *Solenosmilia variablis* reef<br>• Hard-bottom coral garden<br>• Soft-bottom coral garden<br>• Ostur sponge aggregations<br>• Hard-bottom sponge aggregations<br>• Glass sponge communities |
| Status | Text | M | Presence or absence of habitat or species | Choose either Present or Absent |

| FIELD NAME | FIELD TYPE | OBLIGATION | DESCRIPTION | GUIDANCE |
|---|---|---|---|---|
| GeneralTaxonDescriptor | Text | M | Most detailed name of taxon (according to Highest Taxonomic Resolution) | e.g. Porifera, *Lophelia pertusa*, soft coral |
| HighestTaxonomicResolution | Text | C | Highest taxonomic resolution described in GeneralTaxonDescriptor | Only use if a scientific taxon name is given. E.g. order, species, genus. |
| Order | Text | C | Order of taxon, if known | If not known, use "NA" |
| Genus | Text | C | Genus of taxon, if known | If not known, use "NA" |
| Species | Text | C | Species of taxon, if known | If not known, use "NA" |
| Dead_alive | Text | O | Indication of whether most of sample was dead or live | Choose either "Dead" or "Alive" |
| Number | Double | O | Number of individuals associated with record | If not known, use "NA". |
| Weight_kg | Double | O | Mass of Indicator, in kg, associated with record | If not known or not relevant, use "NA". Do not include if the record is a VME habitat type. |
| Density | Double | O | Number of individuals per square metre ($m^2$) | If not known or not relevant, use "NA". |
| % Cover | Double | O | Percentage cover of Indicator (relevant to observation data) | If not known or not relevant, use "NA". |
| SACFOR | Text | O | Semi-quantitative abundance scale (relevant to observation data) | If not known or not relevant, use "NA". |
| TaxonDeterminer | Text | M | Name of organization that identified the GeneralTaxonDescriptor. | Please select the organization from the list at http://vocab.ices.dk/?ref=EDMO |
| TaxonDeterminationDate | Date | M | Date of identification of the GeneralTaxonDescriptor. | All dates must be supplied as text in the format YYYY-MM-DD (ISO date format). |
| ObsDate | Date | M | Date the habitat or species was recorded. | All dates must be supplied as text in the format YYYY-MM-DD (ISO date format). |
| ObsDateType | Text | M | A one or two character code that identifies the type of dates used in ObsDate. Explicitly stating the code avoids any ambiguity, which might lead to subtly different interpretations. | Choose from: D - Dates specified to the nearest day. O - Dates specified to the nearest month Y - Dates specified to the nearest year ND - No date U – Unknown |

| FIELD NAME | FIELD TYPE | OBLIGATION | DESCRIPTION | GUIDANCE |
|---|---|---|---|---|
| StationID | Text | O | ID of the survey station, if known. | May be numeric, text or a combination of numbers and text. |
| SurveyKey | Text | O | Unique key for each dataset making up the country submission to WGDEC (e.g. representing actual separate surveys, data from different sources, museum collections, etc.). SurveyKey links to the Survey Key Metadata worksheet, where survey details are described in full. | Each SurveyKey must refer to a record in the SurveyKey Metadata worksheet. |
| SurveyMethod | Text | O | A description of the survey method(s) used. | Choose one or more from:<br>• Multibeam echo sounder (unknown platform)<br>• Multibeam echo sounder (vessel mounted)<br>• Multibeam echo sounder (AUV mounted)<br>• Multibeam echo sounder (ROV mounted)<br>• Single beam echo sounder<br>• Side scan sonar (Unknown platform)<br>• Side scan sonar (AUV mounted)<br>• Sub-bottom profiler<br>• Grab (please specify type from link above)<br>• Core (please specify type from link above)<br>• Trawl (please specify type from link above)<br>• Dredge (please specify type from link above)<br>• Longline<br>• Seabed imagery - towed camera system<br>• Seabed imagery - drop camera system<br>• Seabed imagery – ROV system<br>This list is a subset of the ICES Sampler Type vocabulary. If your survey method is not listed, please select from: http://vocab.ices.dk/?ref=152 |
| VesselType | Text | M | Vessel type from which the sample was collected | Choose from:<br>• Commercial<br>• Research<br>• Other |

| FIELD NAME | FIELD TYPE | OBLIGATION | DESCRIPTION | GUIDANCE |
|---|---|---|---|---|
| Ship | Text | O | Name of vessel on which sample was collected (for ROV or AUV, provide name of parent vessel). | If the survey was carried out using a research vessel, please select the vessel name from the list at http://vocab.ices.dk/?ref=315 |
| PlaceName | Text | O | Name of place in reference to the record collection. | Free text; e.g. "Rockall Bank" |
| StartLatitude | Double | C | Start latitude of the record, if line (if point, use MidLatitude and leave this blank). | Use World Geodetic System 1984 (WGS84) geographic coordinate system, and decimal degrees. |
| StartLongitude | Double | C | Start longitude of the record, if line (if point, use MidLongitude and leave this blank). | Use World Geodetic System 1984 (WGS84) geographic coordinate system, and decimal degrees. |
| EndLatitude | Double | C | End latitude of the record, if line (if point, leave blank). | Use World Geodetic System 1984 (WGS84) geographic coordinate system, and decimal degrees. |
| EndLongitude | Double | C | End longitude of the record (if point, leave blank). | Use World Geodetic System 1984 (WGS84) geographic coordinate system, and decimal degrees. |
| MidLatitude | Double | M | Midpoint Latitude of the record if line (if point, use this field for position). | Use World Geodetic System 1984 (WGS84) geographic coordinate system, and decimal degrees. |
| MidLogitude | Double | M | Midpoint longitude of the record if line (if point, use this field for position). | Use World Geodetic System 1984 (WGS84) geographic coordinate system, and decimal degrees. |
| GeometryType | Text | M | Point or line | Enter "point" or "line" |
| RecordPositionAccuracy | Integer | O | Accuracy of spatial position of record. | Value in metres; e.g. "10" means the given position of the habitat is accurate to ± 10 metres. |
| ShipPositionPrecision | Integer | O | An estimate of the precision of the lat/long coordinates relative to the benthic Indicator. Relevant to bycatch records | Calculated or estimated precision of the benthic feature in metres. Take into account whether position is determined from the ship position or from ROV. |
| Reference | Text | M | A reference to the data source | Complete citation for the data source e.g. "Mortensen *et al.*, 2006" |
| Filename | Text | O | Name of the excel or shape file submitted | |
| ResponsibleOrganization | Text | M | Name of the organization responsible for the data. | Please select the organization from the list at http://vocab.ices.dk/?ref=EDMO |
| PointOfContact | Text | M | Name of the point of contact for queries about the data. | Free text. |
| ContactEmail | Text | M | E-mail address for a point of contact for the data. | Valid e-mail address. |
| DataAccess | Text | M | Data access constraints | e.g. "public" or "restricted". Please use 'public' if you are content with the data being downloadable in its 'raw form' |

| FIELD NAME | FIELD TYPE | OBLIGATION | DESCRIPTION | GUIDANCE |
|---|---|---|---|---|
| | | | | from the ICES data portal.  Alternatively, the data will not be downloadable if you select 'restricted'. |
| Depth Upper | Double | O | For transect data (video or trawl) indicate the shallowest depth in metres | e.g. 110 |
| Depth Lower | Double | O | For transect data (video or trawl) indicate the deepest depth in metres | e.g. 150 |
| Comments | Text | O | Any other comments or information | e.g. "sample was 60% live coral and 40% dead" |