Supplementary Material

A multi criteria assessment method for identifying Vulnerable Marine Ecosystems in the North-East Atlantic

Telmo Morato1\*, Christopher K. Pham1, Carlos Pinto2, Neil Golding3, Jeff A. Ardron4, Pablo Durán Muñoz5, Francis Neat6

**\* Correspondence:** Telmo Morato: t.morato@gmail.com

# Supplementary Figures and Tables

**Supplementary Table 2. Scoring procedure agreed by a group of deep-sea scientists through an ICES Expert Group using informed expert judgement.**

| **FAO criteria** | **Description of the criteria** | **Scoring guidelines** | **Scores** |
| --- | --- | --- | --- |
| **Uniqueness or rareness** | An area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by similar areas or ecosystems | According to presence on IUCN red list, and if the indicator was known to be endemic, rare, threatened or declining | E.g. using an expert judgement potential scale of: 1 for indicators with a global distribution, 2 for large ocean basis distribution, 3 for regional distribution, 4 for local distribution and 5 for isolated or endemic to small spatial scale taxa. |
| **Functional significance** | Discrete areas or habitats that are necessary for the survival, function, spawning/reproduction or recovery of fish stocks, particular life-history stages (e.g. nursery grounds or rearing areas), or of rare, threatened or endangered marine species | Evaluating if the indicators were known to create nursery areas for other species, or known for having higher level ecosystem role, such as nutrient cycling and water filtration | E.g. using an expert judgement potential scale of: 1 for indicators known not to create functional habitat, 2 for low provision of functional habitat, 3 for medium provision, 4 for high provision and 5 for very high for provision of functional habitat. |
| **Fragility** | An ecosystem that is highly susceptible to degradation by anthropogenic activities | According to the fragility of the indicator against physical contact, the height and complexity of its structure, and the capacity for retraction, retention or re-growth or if being naturally protected in some way | E.g. using an expert judgement potential scale of: 1 if not fragile, 2 for low fragility, 3 for medium fragility, 4 for high fragility and 5 for very high fragility. |
| **Life-history** | Ecosystems that are characterized by populations or assemblages of species with one or more of the following characteristics: slow growth rates, late age of maturity, low or unpredictable recruitment, or long-lived | Against the longevity as a proxy for potential recovery after disturbance, fecundity, age at maturity, growth rate, and known frequency of recruitment success | E.g. using an expert judgement potential scale of: 1 if longevity<5 years, 2 if 5-15, 3 if 15-30, 4 if 30-100, or 5 if >100 years. |
| **Structural** **complexity** | An ecosystem that is characterized by complex physical structures created by significant concentrations of biotic and abiotic features | Based on structural habitat created, frame-building, and presence of commensal or closely associated species | E.g. using an expert judgement potential scale of: 1 if not forming structural habitat, 2 for low provision of structural habitat, 3 for medium provision, 4 for high provision and 5 for very high for provision of structural habitat. |