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NEAFC ICES MOU Annex 1, as updated following NEAFC Annual Meeting 2021

(see document NEAFC AM 2021-78).

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Annex 1**1. Ecosystem approach**

The advice shall be based on an ecosystem approach. This will be implemented incrementally so that any information on the interactions between fisheries, the fish stocks and the marine ecosystem is considered and incorporated in the advice as it becomes available; specifically, taking ecosystem and environmental considerations into account when providing the recurring advice mentioned above, ICES will develop a process to incorporate the following advice into overviews:

- a. Assess the extent to which fishing disturbs the marine ecosystems and, where reference levels have been established, compare the impact to the reference level chosen.
- b. Provide any new information regarding the impact of fisheries on other components of the ecosystem including small cetaceans and other marine mammals, sea birds and sensitive habitats.
- c. Inform NEAFC of any notable impact of other factors on and imbalances in ecosystem structure that may prejudice the stocks of commercially valuable species and its long term exploitation;
- d. Propose reference points as guidance for management purposes in an ecosystem context.

ICES will in addition give warnings of any serious threats from fishing activities alone or in conjunction with any other relevant activity to local ecosystems or species as soon as ICES is aware of such threats.

ICES advises competent authorities on marine policy and management issues related to the impacts of human activities on marine ecosystems and the sustainable use of living marine resources.

An important part of ICES advice regards the management of the exploitation of living marine resources. The context for this part of ICES advice is set by several international agreements and policies:

- United Nations Convention on the Law of the Sea;
- United Nations Conference on Environment and Development;
- United Nations Straddling Fish Stocks Agreement and the FAO Code of Conduct for Responsible Fisheries;
- Convention on Biological Diversity;
- Johannesburg Declaration of the World Summit on Sustainable Development, 2002,
- United Nations Sustainable Development Goal 14

2. Recurring advice required from ICES.

Recurring advice shall be given in the context of ecosystems and fisheries. ICES advises competent authorities on marine policy and management issues related to the impacts of human activities on marine ecosystems and the sustainable use of living marine resources.

ICES' approach to advice on fishing opportunities integrates ecosystem-based management with the objective of achieving maximum sustainable yield (MSY) following the Annex 2 of the UN Fish Stocks Agreement (UN, 1995). The advice rule applied by ICES in developing the advice on fishing possibilities depends on management strategies agreed by relevant management bodies and the information and knowledge available for the concerned stocks. If the relevant management authorities have agreed on a management plan or strategy and the plan/strategy has been evaluated by ICES to be consistent with the precautionary approach, ICES will provide advice in accordance with the plan/strategy.

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If no management plan/strategy has been agreed by all relevant management parties or the agreed plan/strategy has been evaluated by ICES not to be consistent with the precautionary approach, ICES will provide advice applying the ICES MSY advice rule if possible or the precautionary approach if the information on the stocks is insufficient to support the MSY rule.

ICES MSY advice rule requires a relative high level of data and knowledge on the dynamics of the stocks concerned. If the data and knowledge requirements are not fulfilled ICES cannot provide advice consistent with MSY; instead ICES applies an advice rule that is only based on precautionary considerations. For stocks that are shared between NEAFC and other Clients the standard ICES advice rules are followed for the headline advice, except in cases of an agreed management strategy between Coastal States.

The recurring advice shall include information on the state of marine ecosystems and human impacts including historical developments in main parameters and information on the present state and recent development of stocks. The recurrent advice shall provide information on state of stocks and fisheries including - when available - historical developments in spawning stock biomass, total stock biomass, fishing mortality, landings and discards in the NEAFC regulatory area and within EEZs. The recurrent advice shall include the NEAFC deep sea categories where relevant.

The recurring advice regarding fisheries management will include advice on long term management strategies and short and medium term implications of these as detailed below.

In the recurring advice for deep-sea stocks, ICES shall take account of NEAFC approach to conservation and management of deep-sea species and adopted in 2016. ICES shall provide information on the observed distribution of catches between the NEAFC Regulatory Area and EEZs, in addition to the distribution by the ICES statistical areas at the finest resolution available.

ICES is requested to include reference to the NEAFC deep sea species/stock categories in the relevant advice sheets.

Special attention should be paid to species/stocks for which fisheries change or new fisheries emerge, resulting in marked advice changes. NEAFC should be alerted to new and emerging fisheries that may develop rapidly, even if no stock-specific advice can be provided.

The recurring advice on vulnerable marine ecosystems in the NEAFC Regulatory Area shall take into account NEAFC's objective to ensure the implementation of effective measures to prevent significant adverse impacts of bottom fishing activities on vulnerable marine ecosystems known to occur or likely to occur in the NEAFC Regulatory Area based on the best available scientific information provided or endorsed by the ICES.

The recurring advice ICES shall provide on Vulnerable Marine Ecosystems with reference to the current Recommendation on Protection of VMEs in NEAFC Regulatory Areas, will include advice on VME indicator species, 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 objective. The advice should also consider subareas of the Regulatory Area that are closed to fishing for other purposes than VME protection, e.g. the haddock box at Rockall.

Implementation issues shall be specifically addressed in the advice. Regarding fisheries management advice ICES will evaluate implementation issues and the outcomes of specific management measures. Specifically, when new regulations are introduced ICES shall provide evaluations of these when sufficient information is available.

When IUU (Illegal, Unregulated and Unreported) fishing is indicated to take place ICES will consider the effects on the stocks of such fisheries in the advice.

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When providing its advice regarding fisheries ICES shall take account of all available information and the context of fisheries management including information from the fishing industry, ecosystem considerations, environment and hydrographical conditions, regulations in force that affect fisheries, factors affecting fishing operations and information about the fisheries, development of fisheries technology and relevant performance changes and other relevant factors that affect fishing or fish stocks.

Advice from ICES shall in all cases take account of the accuracy and precision of the available assessments and forecasts. Information about the accuracy and precision of assessments and forecasts shall be presented and considered in the advice.

3. Quality assurance of advice deliverables

ICES quality assurance of advisory products covers the entire chain from data collection to publication of advice. ICES has taken a large number of initiatives to quality assure the advisory products. In recent years, focus has been on data quality, transparency, and enhancement of the advisory framework, mainly through the development of guidelines.

The Stock Assessment Graph Database and Stock Information Database online portals provide a comprehensive publicly accessible status of approximately 200 assessed stocks, including their historical performance, confidence intervals and with all supporting meta-data that ensure consistency and a means to generate new data calls based upon the most current available information.

A full methodological description of the assessment, data used and advisory procedure for each stock, updated whenever significant changes are made, including reference to new methods will be made available in the Transparent Assessment Framework (TAF). Documentation of each assessment, with information on the lineage of data used in assessment, will be adequate to allow recalculation of any assessment or catch projection by an external expert, with reference to publicly available web-based data as required. All ICES assessments are expected to be functional in TAF by 2021.

ICES will provide a description of the benchmarking process including an overview of the different benchmark exercises foreseen in the coming 24 months by end of a calendar year. This submission includes a timeline and planning of the benchmark exercises listed.

The short-term implications will, when adequate data are available, be expressed as quantified consequences of the management measures currently implemented for that stock or fishery. For the management year (or years in the case of multi-annual management regimes), the short term consequences of relevant management measures should be given for relevant intervals of action while reflecting the uncertainties regarding expected outcomes.

There may be cases where the uncertainties in the evaluation of outcomes are such that a quantitative assessment between management measures is not possible. ICES shall then provide quantitative or qualitative information regarding expected outcomes of relevant management measures over specific periods which reflect the uncertainty in the evaluation. In cases where data are insufficient to provide the basis for quantitative advice ICES shall provide information on the reasons for this deficiency and advice on management measures which, given the uncertainties, are considered consistent with the NEAFC Convention.

4. Provision of information

In support of its advice ICES shall provide NEAFC with:

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- (a) A full methodological description of the assessment and advisory procedure for each stock, updated whenever a significant change is made;
 - (b) Estimates of landings, fishing mortality, recruitment and spawning stock together with information or estimates of the uncertainty with which these parameters are estimated. These data shall be provided electronically;
 - (c) Estimates of relevant reference points for management;
 - (d) On request, complete data records used for assessment purposes shall be provided. These data shall be provided electronically;

Such information should be provided whenever significant changes are made or can be detected, but not normally more frequently than implied by the schedule in Annex 3. However, NEAFC should be informed immediately of any new information indicating a previously unforeseen biological emergency.

5. Ecosystems and stocks for which advice is given

Advice is provided regarding marine ecosystems within the geographical scope of this agreement. The particular stocks are those listed below. In the case of the stocks for which a Client Commission has specific responsibility, the primary request to ICES shall be made through that Client Commission.

Advice shall normally be provided for each calendar year. However, for stocks where measurement precision is low compared to the expected magnitude of changes in stock size advice may be provided at intervals greater than each year. For short-lived species and highly seasonal fisheries the timing of the advice shall be adapted as appropriate. In other cases, specific reasons may apply to exclude stocks from advice requests.

NEAFC Regulated Resources

NEAFC Regulated Resources are set out in the NEAFC Scheme of Control and Enforcement, and may be updated from time to time which will be reflected in this table; this is the 2019 version of the Scheme.

The current Scheme is at: <https://www.neafc.org/mcs/scheme>

Annex 1 A) of the NEAFC Scheme - Regulated Resources Pelagic and Oceanic Species

Stock (common name)	FAO code	Scientific Name	ICES subareas and divisions
Redfish	REB	<i>Sebastes mentella</i>	I, II, V, XII, XIV
Norwegian Spring Spawning Herring (Atlanto-Scandian)	HER	<i>Clupea harengus</i>	I, II
Blue whiting	WHB	<i>Micromesistius poutassou</i>	IIa, IVa, Vb, VI, VII, XII, XIV
Mackerel	MAC	<i>Scomber scombrus</i>	IIa, IV, V, VI, VII, XII
Haddock	HAD	<i>Melanogrammus aeglefinus</i>	VIb

Annex 1 B) of the Scheme - Regulated Resources Deep-Sea Species

Regulated Resources Deep-Sea Species			
Stock (common name)	FAO code	ScientificName	ICES subareas
Baird's smooth head	ALC	<i>Alepocephalus bairdii</i>	I to XIV
Risso's smooth head	PHO	<i>Alepocephalus rostratus</i>	I to XIV
Blue antimora (Blue hake)	ANT	<i>Antimora rostrata</i>	I to XIV
Black scabbard fish	BSF	<i>Aphanopus carbo</i>	I to XIV
Iceland catshark	API	<i>Apristuris spp</i>	I to XIV
Argentines	ARG	<i>Argentina spp</i>	I to XIV
Greater argentine	ARU	<i>Argentina silus</i>	I to XIV
Alfonsinos	ALF	<i>Beryx spp.</i>	I to XIV
Tusk	USK	<i>Brosme brosme</i>	I to XIV
Gulper shark	GUP	<i>Centrophorus granulosus</i>	I to XIV
Leafscale gulper shark	GUQ	<i>Centrophorus squamosus</i>	I to XIV
Black dogfish	CFB	<i>Centroscyllium fabricii</i>	I to XIV
Portuguese dogfish	CYO	<i>Centroscymnus coelolepis</i>	I to XIV
Longnose velvet dogfish	CYP	<i>Centroscymnus crepidater</i>	I to XIV
Deep-water red crab	KEF	<i>Chacon (Geyron) affinis</i>	I to XIV
Rabbit fish (Rattail)	CMO	<i>Chimaera monstrosa</i>	I to XIV
Frilled shark	HXC	<i>Chlamydoselachus anguineus</i>	I to XIV
Conger eel	COE	<i>Conger conger</i>	I to XIV
Roundnose grenadier	RNG	<i>Coryphaenoides rupestris</i>	I to XIV
Kitefin shark	SCK	<i>Dalatias licha</i>	I to XIV
Birdbeak dogfish	DCA	<i>Deania calcea</i>	I to XIV
Black (Deep-water) cardinal fish	EPI	<i>Epigonus telescopus</i>	I to XIV
Lantern sharks	SHL	<i>Etmopterus spp</i>	I to XIV
Greater lantern shark	ETR	<i>Etmopterus princeps</i>	I to XIV
Velvet belly	ETX	<i>Etmopterus spinax</i>	I to XIV
Blackmouth dogfish	SHO	<i>Galeus melastomus</i>	I to XIV
Mouse catshark	GAM	<i>Galeus murinus</i>	I to XIV
Bluemouth (Blue mouth redfish)	BRF	<i>Helicolenus dactylopterus</i>	I to XIV
Bluntnose six-gilled shark	SBL	<i>Hexanchus griseus</i>	I to XIV
Orange roughy	ORY	<i>Hoplostethus atlanticus</i>	I to XIV
Silver roughy (Pink)	HPR	<i>Hoplostethus mediterraneus</i>	I to XIV

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Regulated Resources Deep-Sea Species			
Stock (common name)	FAO code	ScientificName	ICES subareas
Large- eyed rabbit fish (Ratfish)	CYH	<i>Hydrolagus mirabilis</i>	I to XIV
Silver scabbard fish (Cutless fish)	SFS	<i>Lepidopus caudatus</i>	I to XIV
Eelpout	ELP	<i>Zoarces viviparus</i>	I to XIV
Greater eelpout	LXK	<i>Lycodes esmarkii</i>	I to XIV
Roughhead grenadier (Rough rattail)	RHG	<i>Marcrourus berglax</i>	I to XIV
Blueling	BLI	<i>Molva dypterigia</i>	I to XIV
Ling	LIN	<i>Molva molva</i>	I to XIV
Common mora	RIB	<i>Mora moro</i>	I to XIV
Sailfin roughshark (Sharpback shark)	OXN	<i>Oxynotus paradoxus</i>	I to XIV
Red (blackspot) seabream	SBR	<i>Pagellus bogaraveo</i>	I to XIV
Forkbeards	FOX	<i>Phycis spp.</i>	I to XIV
Greater forkbeard	GFB	<i>Phycis blennoides</i>	I to XIV
Wreckfish	WRF	<i>Polyprion americanus</i>	I to XIV
Round skate	RJY	<i>Rajafyllae</i>	I to XIV
Arctic skate	RJG	<i>Raja hyperborean</i>	I to XIV
Norwegian skate	JAD	<i>Rajanidarosius</i>	I to XIV
Greenland halibut	GHL	<i>Rheinhardtius hippoglossoides</i>	I to XIV
Straightnose rabbitfish	RCT	<i>Rhinochimaera atlantica</i>	I to XIV
Knifetooth dogfish	SYR	<i>Scymnodon ringens</i>	I to XIV
Small redfish (Norway haddock)	SFV	<i>Sebastes viviparus</i>	I to XIV
Greenland shark	GSK	<i>Somniosus microcephalus</i>	I to XIV
Spiny (Deep-sea) Scorpionfish	TJX	<i>Trachyscorpia cristulata</i>	I to XIV
Roughsnout grenadier	TSU	<i>Trachyrincus scabrus</i>	I to XIV
Grenadiers	RTX	<i>Macrouridae</i>	I to XIV

Annex 1 C) of the NEAFC Scheme - Regulated Resources Other Species

Regulated Resources Deep-Sea Species			
Stock (common name)	FAO code	ScientificName	ICES subareas
Porbeagle ¹	POR	<i>Lamna nasus</i>	I to XIV
Spiny dogfish /Spurdog	DGS	<i>Squalus acanthias</i>	I to XIV
Basking Shark ¹	BSK	<i>Cetorhinus maximus</i>	I to XIV

¹This applies as long as Recommendations on these stocks are in effect

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Other species

Stock (common name)	ICES subareas and divisions
Cod (<i>Gadus morhua</i>)	NAFO Subarea 1, inshore (West Greenland)
Cod (<i>Gadus morhua</i>)	NAFO divisions 1.A-E, offshore (West Greenland)
Cod (<i>Gadus morhua</i>)	Subdivision 5.b.2 (Faroe Bank)

FAO 3 alpha code	Stock ID	Stock description
CAP	CAP.27.1-2	Capelin (<i>Mallotus villosus</i>) in subareas 1 and 2 (Northeast Arctic), excluding Division 2.a west of 5°W (Barents Sea capelin)
CAP	CAP.27.2A514	Capelin (<i>Mallotus villosus</i>) in subareas 5 and 14 and Division 2.a west of 5°W (Iceland and Faroes grounds, East Greenland, Jan Mayen area)
COD	COD.2127.1F14	Cod (<i>Gadus morhua</i>) in ICES Subarea 14 and NAFO Division 1.F (East Greenland, South Greenland)
COD	COD.27.1-2	Cod (<i>Gadus morhua</i>) in subareas 1 and 2 (Northeast Arctic)
COD	COD.27.6B	Cod (<i>Gadus morhua</i>) in Division 6.b (Rockall)
ELE	ELE.2737.NEA	European eel (<i>Anguilla anguilla</i>) throughout its natural range
GUR	GUR.27.3-8	Red gurnard (<i>Chelidonichthys cuculus</i>) in subareas 3-8 (Northeast Atlantic)
HKE	HKE.27.3A46-8ABD	Hake (<i>Merluccius merluccius</i>) in subareas 4, 6, and 7, and divisions 3.a, 8.a-b, and 8.d, Northern stock (Greater North Sea, Celtic Seas, and the northern Bay of Biscay)
HOM	HOM.27.2A4A5 B6A7A-CE-K8	Horse mackerel (<i>Trachurus trachurus</i>) in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a-c,e-k (the Northeast Atlantic)
LEZ	LEZ.27.6B	Megrim (<i>Lepidorhombus</i> spp.) in Division 6.b (Rockall)
POK	POK.27.3A46	Saithe (<i>Pollachius virens</i>) in Subareas 4, 6 and Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat)
PRA	PRA.27.1-2	Northern shrimp (<i>Pandalus borealis</i>) in subareas 1 and 2 (Northeast Arctic)
REG	REG.27.1-2	Golden redfish (<i>Sebastes norvegicus</i>) in subareas 1 and 2 (Northeast Arctic)
REG	REG.27.561214	Golden redfish (<i>Sebastes norvegicus</i>) in subareas 5, 6, 12, and 14 (Iceland and Faroes grounds, West of Scotland, North of Azores, East of Greenland)
WHG	WHG.27.6B	Whiting (<i>Merlangius merlangus</i>) in Division 6.b (Rockall)
POK	not in vocab yet	Saithe (<i>Pollachius virens</i>) in subareas 7-10
HAD	HAD.27.1-2	Haddock (<i>Melanogrammus aeglefinus</i>) in subareas 1 and 2 (Northeast Arctic)

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NEAFC Guidance on Deep Sea Stocks

[The NEAFC Approach to Conservation and Management of Deep-sea Species, 2016](#)

NEAFC Agreements on Vulnerable Marine Ecosystems

The current Recommendation on Protection of VMEs in NEAFC Regulatory Areas, as updated/amended from time to time;

<https://www.neafc.org: Rec.19-2014 as amended by 09 2015 and 10 2018.pdf>

Other Relevant Documents

“Agreement on VMS and catch data between NEAFC and ICES”, updated in January 2019 to reflect NEAFC Recommendation to Provide VMS and Catch Data to ICES for Scientific Purposes, as updated/amended.

<https://www.neafc.org: Recommendation2016 VMS Data to ICES.pdf>

Recommendation 9:2023. Recommendation to add additional deep-sea chimaera species to the NEAFC Scheme of Control and Enforcement. This specifies that no recurring advice is needed on the following stocks:

ORDER CHIMAERIFORMES

Family Chimaeridae

Opal chimaera	<i>Chimaera opalescens</i>
Small-eyed rabbitfish	<i>Hydrolagus affinis</i>
Portuguese rabbitfish	<i>Hydrolagus lusitanicus</i>
Pale chimaera	<i>Hydrolagus pallidus</i>

Family Rhinochimaeridae

Smallspine spookfish	<i>Harriotta haeckeli</i>
Narrownose chimaera	<i>Harriotta raleighana</i>

Other relevant NEAFC Recommendations as updated/amended from time to time – and drawn to the attention of ICES.