

Memorandum of Understanding between the Republic of Iceland and the International Council for the Exploration of the Sea

RECOGNISING that the Republic of Iceland (referred in this document as "Iceland")

- a) is an ICES Member Country;
- b) is a competent authority for managing fish stocks in North Atlantic and performs its functions in the interests of the conservation and optimum utilisation of the fishery resources and shall take into account the best scientific evidence available;
- c) has a responsibility for the protection of the marine environment and exclusive competence for the conservation, management, and exploitation of living marine resources in waters under its jurisdiction;
- d) has established the Iceland Fisheries management act, which encompasses all wild living marine resources, with the purpose of ensuring sustainable and economically profitable management and to promote employment and settlement in coastal communities;
- e) aims to ensure that exploitation of the resources secure biodiversity and restores and maintains marine populations of economically important harvested species above levels consistent with the precautionary approach, as appropriate;
- f) seeks services and scientific advisory deliverables from ICES for scientific advice and information on conservation, protection and sustainable use of the marine environment, fisheries and marine data and issues regarding marine science, and marine research;
- g) seeks services and scientific advisory deliverables from ICES for scientific advice and information on sustainable aquaculture.

RECOGNISING that the International Council for the Exploration of the Sea ("ICES")

- a) has the mission to advance the scientific capacity to give advice on human activities affecting, and affected by, marine ecosystems;
- b) is a science community that is able to address issues of relevance to the exploitation of living marine resources;
- c) exists to promote and encourage research and investigations for the study of the sea, to advance the scientific understanding of marine ecosystems, including its living resources;
- d) draws up the necessary programmes and organises such research and investigations as may appear necessary and publishes and disseminates the results of this work;
- e) provides scientific information and advice to Contracting Parties, and the regulatory commissions with which cooperative relationships have been established;

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f) seeks to establish and maintain working arrangements with other international organizations and arrangements having related objectives;

g) does not engage in the collection of primary data, and only conducts scientific research through the associated network of data providers. ICES has no authority to manage or direct the work of the data providing entities. ICES Advice is based on data inputs from relevant data providers, these data inputs are provided through a data call process or agreed published data provision timetable, and made available through the ICES databases. Should an institute not be in a position to deliver its data and would ICES as a result not be able to deliver advice as agreed, ICES will inform Iceland about the issue. Iceland understands that ICES will be unable to fulfil the Agreement should this occur.

h) ICES advisory process relies on active participation of ICES experts with relevant and necessary expertise from ICES member countries. ICES only conducts scientific research through the associated network of research institutes. ICES has no authority to manage or direct the work of the research institutes.

Iceland and ICES have therefore reached the following understanding:

Provision of Scientific Information and Advice

1. ICES, according to this Memorandum of Understanding will provide Iceland with scientific information and advice, which is independent and free from political influence and subject to international scientific standards for research and evidence-based advice. The technical basis for the advice is subject to an open and transparent process that includes independent peer review. The geographical scope of the Memorandum of Understanding is the North Atlantic, with emphasis on the areas around Iceland;
2. ICES and Iceland will consult on ways in which cooperation between them can be further improved and extended. To this end the Parties will exchange documents and reports of mutual interest. Further improvements may include joint activities, e.g. seminars, symposia, or other meetings;
3. Iceland is obligated to provide ICES with any and all relevant data for scientific analysis (Annex 5) under the ICES Data Policy¹. Exclusions to the ICES data policy are listed on the ICES Data Policy web page and specific policies²³ are in place to ensure the confidentiality obligations of the data provider;

¹ <http://ices.dk/marine-data/guidelines-and-policy/Pages/ICES-data-policy.aspx>

² http://ices.dk/marine-data/Documents/Data_Policy_RDB.pdf

³ http://ices.dk/marine-data/Documents/VMS_DataAccess_ICES.pdf



- a) The ICES Data Policy states that the quality assurance of data is the responsibility of the data provider. ICES may perform additional quality control of the aggregated data used in assessments and shall decide which data are considered a useful basis for advice.
- b) ICES will in the background documentation for the advice describe which data were used and qualitatively describe sources of uncertainty affecting the assessment. ICES will also explain both the internal and external quality control procedures used for all advice;

4. ICES agrees to provide Iceland with:

- a. annual "recurring" advice in the context of overviews of ecosystems and fisheries, and fishing opportunities as outlined in Annex 1 and 2 and with the schedule as outlined in Annex 3;
- b. "non-recurring advice" as agreed separately between Iceland and ICES in response to requests from Iceland and with the schedule as outlined in Annex 3;
- c. the information on which the advice is based (*inter alia*, Expert Group Reports including peer review reports). This information shall be publically available following the ICES review process.

5. If requested by Iceland, the Chair or designate of the ICES Advisory Committee will present the scientific information and advice to Iceland. An ICES professional officer will also be invited to the meetings;

6. ICES will notify Iceland when the advice is released on the ICES website;

7. In the event that scientific work necessary for ICES to fulfil its obligations under this agreement is not completed, ICES shall inform Iceland of the nature, detail, and consequences of such shortfalls.

Finance

8. Iceland accepts ICES policy of achieving 100% cost recovery from Member Countries and international client commissions that request ICES to provide information, advice, and services. When assessing the contributions to be paid by Iceland, due account shall be taken of contributions made by ICES Member Countries or international client commissions of ICES with interests in the same issues and in the same geographical area. Against this background, the Parties shall consult and agree:

- a. on a fixed annual price for the recurring advice for the period of the MoU, regulated in accordance with the official rate of inflation in Denmark;
- b. to revise Annex 1 when appropriate;
- c. to determine the cost for evaluation of stocks that Iceland shares with other ICES Member Countries or other international client commissions of ICES;

9. Iceland agrees to:

- a. pay following the procedure in Annex 3 a fixed amount for the following three years, 2020-2022 as agreed upon with ICES for "recurring" advice as outlined in Annex 1 and 2, with an annual increase in accordance with the rate of inflation in Denmark using DKK DKK 530.162 as the base. ICES has based this fixed price on temporary calculations for costs of providing advice to Iceland under the MoU, and given the explanations in Annex 4; components upon which the ICES costs are calculated. These temporary arrangements will need to be replaced according to an agreed cost-sharing key;
- b. to pay 100% of the costs for non-recurring advice on the basis of the costs agreed upon with ICES in accordance with procedures established in Annex 3 and cost components as identified in Annex 4.

General Administrative Arrangements

10. This Memorandum of Understanding will apply following signature by both Parties, and enters into force 1st of December 2019;

11. The Parties will meet annually, preferable in the beginning of the year to consult on the deliverables and discuss other issues of relevance for this MoU. ICES is responsible to arrange this annual meeting;

12. Either Party may propose amendments to this MoU. Any such proposal will be made in due time before the annual meeting;

13. Every third year after entering in to force the MoU shall be reviewed by the Parties, and if necessary revised. The Parties will meet well in advance to carry out a full review of its terms and operation, and to agree any necessary amendments;

14. If any dispute should arise between the Parties on the interpretation and application of the MoU, both sides will make their best endeavour to resolve it, if necessary by the involvement of a mutually agreeable arbiter;

15. The MoU may be terminated by either Party with a notification in writing of one year.

16. All the correspondence concerning the present MoU shall be in written form and shall be forwarded to the following addresses:

a. For Iceland:

The Ministry of Industries and Innovation,
Skulagata 4,
101 Reykjavík,
Iceland

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b. For ICES:


International Council for the Exploration of the Sea,
H.C. Andersens Boulevard 44-46,
DK-1553 Copenhagen V,
Denmark

Signed on behalf of the International
Council for the Exploration of the Sea and
the Republic of Iceland:

For ICES,
Fritz Köster

signature: 

For the Republic of Iceland,
Johann Gudmundsson

signature: 

Done at Copenhagen,1.12.2019....., in duplicate in English

Annex 1: Recurring advice required from ICES

Policy basis for advice

With respect to the policy context of the advisory deliverables ICES' approach to advice on fishing opportunities integrates ecosystem-based management with the objective of achieving maximum sustainable yield (MSY) following 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. 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 Iceland 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 advisory deliverables have to take into account the legal management framework adopted by Iceland.

If ICES is aware of implementation problems regarding agreed management plans/strategies the advice should highlight this and consider these issues in its advice on short term implications of these management plans and seek to inform Iceland at the earliest convenience.

Ecosystem and Fisheries advice

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 marine mammals, sea birds, and sensitive habitats.

- c) Inform Iceland 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.
- e) ICES will in addition give warnings of any serious and/or potential environmental impacts from fishing activities alone or in conjunction with any other relevant activity to local ecosystems or species as soon as they are detected.

The advice shall be based on an ecosystem approach. This will be implemented incrementally so that any information on interactions between fisheries, fish stocks, and marine ecosystem is considered and incorporated in the advice as it becomes available.

When providing its advice, 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 and evaluation of strategies for fishing opportunities, catch, and effort

Recurring advice shall be given in the context of:

- a) Ecosystems;
- b) Fisheries;
- c) Fishing opportunities, catch, and effort.

Iceland will receive management advice on fishing opportunities for the commercial fishery and, where relevant, for recreational catches or fisheries, for the stocks and areas in Table 1, Annex 2 with reference to the policy basis for that advice.

Iceland should be consulted about any changes to the format of the advice or changes in the stock composition/area definition in Annex 2.

If a Client Commission of ICES to which Iceland is not a party, makes requests or demands that may influence the content or format of presentation of the recurrent advice for stocks in Annex 2, ICES shall inform and consult with Iceland.

ICES will for each stock listed in Table 1 in Annex 2 in addition to the advice on fishing opportunities provide information on:

- a) The historical developments in spawning stock biomass, total stock biomass, fishing mortality, and catches.
- b) The state of the stocks and fisheries relative to agreed reference points.

In support of its advice ICES shall provide Iceland with:

- c) A full methodological description of the assessment and advisory procedure for each stock, updated whenever a significant change is made;
- d) 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;
- e) Evaluation of the performance of harvest control rules adopted by Iceland (See Annex 2) every five to six years as a part of the assessment review process with maximum of 2 evaluations annually. Iceland will inform ICES 18 months in advance of which HCRs that are scheduled for revision.
- f) Estimates of relevant reference points for management;
- g) On request, complete records of data 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, Iceland should be informed immediately of any new information indicating a previously unforeseen biological emergency.

For species/stocks for which agreed management plan exist, the recurring advice regarding fishing opportunities should be based on such plan if they are considered precautionary by ICES and all authorities with competence regarding fisheries on the stocks concerned agrees that the management plan should be the basis for advice;

For species/stocks that a agreed management plan does not exist or such plans / strategies are not considered precautionary by ICES, the recurring advice regarding fishing opportunities should be based on;

- i) The ICES MSY approach,
- ii) The Precautionary Approach, in the lack of defined MSY reference points.

When possible, ICES will present a set of scenarios in the catch scenario table, including the highest level of fishing that may be considered precautionary. If requested, ICES will present catch scenarios resulting from applying unilateral Icelandic management plans.

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.

ICES shall present short term implications of variable management options, when adequate data are available, 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. In those cases where the uncertainties in the evaluation of outcomes are such that a quantitative distinction between management measures is not possible ICES shall provide quantitative or qualitative information regarding expected outcomes of relevant management measures over intervals of action that 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 Precautionary Approach.

ICES shall provide advice on fishing opportunities and information as outlined above for the stocks listed below. In the case of stocks for which a Client Commission, to which Iceland is a party, has specific responsibility, the primary request to ICES shall be made through that Client Commission.

Advice shall be provided for each calendar year or fishing year (1. September – 31 August) depending on the specific stock and data-availability during the calendar year. However, for stocks where measurements, such as suveys are not conducted on an annual basis 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-year re-assessments for stocks and fisheries will be carried out following procedures adopted by ICES, including updates when ICES will consider that new data becoming available will significantly change conclusions of the stock size according to criteria defined by ICES.

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 300 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.

Annex 2

The table below shows the gross list of stocks for which ICES provides advice to Iceland. The list of species for which Iceland request recurrent advice shall be defined on an annual basis - either by a written procedure or at the annual consultations with ICES. This table provides the gross list of stocks for which ICES provides advice to Iceland.¹

¹This list is of no consequence with respect to Iceland's present or future claims to any of the stocks mentioned.

SPECIES	STOCK
Cod	Cod (<i>Gadus morhua</i>) in Division 5.a (Iceland grounds).
Haddock	Haddock (<i>Melanogrammus aeglefinus</i>) in Division 5.a (Iceland grounds).
Saithe	Saithe (<i>Pollachius virens</i>) in Division 5.a (Iceland grounds).
Herring+	Herring (<i>Clupea harengus</i>) in Division 5.a, summer-spawning herring (Iceland grounds)
Capelin	Capelin (<i>Mallotus villosus</i>) in subareas 5 and 14 and Division 2.a west of 5°W (Iceland and East Greenland, Jan Mayen area).
Ling	Ling (<i>Molva molva</i>) in Division 5.a (Iceland grounds).
Tusk	Tusk (<i>Brosme brosme</i>) in Subarea 14 and Division 5.a (East Greenland, and Iceland grounds).

Atlantic wolffish

Atlantic wolffish (*Anarhichas lupus*) in Division 5.a (Iceland grounds).

Plaice

Plaice (*Pleuronectes platessa*) in Division 5.a (Iceland grounds).

Beaked redfish

Beaked redfish (*Sebastes mentella*) in Subarea 14 and Division 5.a, Icelandic slope stock (East of Greenland, Iceland grounds)

Golden redfish

Golden redfish (*Sebastes norvegicus*) in subareas 5, 6, 12, and 14 (Iceland and Faroes grounds, West of Scotland, North of Azores, East of Greenland).

Greenland halibut

Greenland halibut (*Reinhardtius hippoglossoides*) in subareas 5, 6, 12, and 14 (Iceland and Faroes grounds, West of Scotland, North of Azores, East of Greenland)

Annex 3: Schedule of key annual administrative procedures for Iceland and ICES

A. Schedule for the advice planning, budgeting and payment

November: Iceland formally communicates to ICES an update of its views and priorities with respect to the contents and timing of recurrent advice concerning the next calendar year to ICES.

Mid December: ICES proposes a budget for the delivery of recurrent advice for the next calendar year to be agreed at the annual meeting.

January – February: Annual meeting.

March: Payment by Iceland for recurrent advice in current calendar year.

2.2 B. Schedule for the Provision of Non-recurring Advice

The table specifies the procedures to be undertaken by both Parties when arranging the provision of non-recurring advice, including advice on sustainable aquaculture.

ICELAND

Requests for advice to be sent by letter or e-mail to ICES specifying the desired advice and the timescale within which advice is desired. In case of e-mail correspondence the address should be advice@ices.dk

Iceland will respond within 7 days confirming whether the work is to be undertaken.

ICES

ICES will respond as soon as possible and within 21 working days specifying:

- The nature and extent of the work that can be completed within the specified timeframe;
- The extent to which the questions posed can be answered;
- The extent to which the work is of mutual interest and in such case proposal for cost sharing.
- The additional costs to be recovered from Iceland.

If so agreed, ICES will deliver the advice according to the agreed timescale.

Annex 4: Components upon which ICES costs are calculated

The text below describes the components that ICES has included to make temporary calculations for costs of providing advice to Iceland. These temporary arrangements will need to be replaced according to an agreed cost-sharing key.

The Parties agree that the payment is based on the following;

1. the costs of databases and analyses that are needed in order to prepare advice, but generally would not occur otherwise,
2. the preparation, quality assurance and delivery of the advice,
3. stipend/travel costs incurred for the leadership of the Advisory Committee,
4. salary/travel costs incurred for the ICES Secretariat Advisory programme
5. other direct costs associated with the provision of advisory services

On the basis of this recognition, the following cost components are relevant;

1. Costs incurred by ICES (i.e. travel and *per diem*) related to meetings of its Advisory groups in proportion to the time of these meetings spent on advice related to Iceland;
2. Secretariat staff salaries, including superannuating (with an indication of the number and grades of staff to be involved in the work), regarding preparation for, work during and follow-up after:
 - 2.1 the ICES Advisory Committee Meetings(*), in proportion to the agreed Icelandic share; and
 - 2.2 and other recurring needs associated with ICES Experts Group Meetings, in proportion to the agreed Icelandic share;
3. Travel and *per diem* costs for the Chair of the Advisory Committee (or a designate) or other scientifically-qualified personnel in attending meetings with Iceland, as stipulated in paragraph 5 of the MoU. The number of these meetings at which ICES shall be represented will be mutually agreed beforehand.
4. Databases, web portal systems and data processing software relevant to the collection, processing and dissemination of data and information products that will be used in the provision of scientific information and advice(*);
5. Computing costs(*);
6. the cost of any work where ICES proposes to employ a consultant or contractor(*);
7. other current expenditure(*);
8. A stipend for the chair and vice chairs of the ICES Advisory Committee, in proportion to the agreed Icelandic share;
9. A contribution to the Advisory Programme including the use of external reviewers, in proportion to the agreed Icelandic share;

10. Overheads(*). The overhead costs will be calculated by means of a fixed overhead percentage of 7 % for recurrent advice which is applied to the total costs of each different activity mentioned in the ICES Work Programme. Overheads are based on the documented annual costs (e.g. invoices and payments) of running ICES headquarters so that the Secretariat staff may carry out their duties.

(*). In proportion to costs allocated to the total delivery of advice.

(**) The overhead percentage covers the following types of indirect costs, and the share of these that cannot be allocated directly to specific tasks, such as:

- a) capital cost of computing and other capital equipment;
- b) central financial and personnel administration;
- c) computer system support and maintenance;
- d) rent of premises (excluding ICES headquarters);
- e) office expenses including electricity, heating, watchmen, safety and security, cleaning costs, maintenance costs (e.g. photocopier), consumables, postage, telephone and fax, office equipment, insurance, general office maintenance (e.g. painting) and staff education and training.

Annex 5 Data Collection Arrangement

ICES emphasis on databases, data submission standards and procedures, and data processing is crucial for the quality assurance for provision of the advice deliverables. As a contracting party to ICES, Iceland has made a commitment under Article 1(b) of the Convention for the International Council for the Exploration of the Sea to organise programmes of research and investigation as may appear necessary to support investigations into the living resources of the sea.

For all stocks specified in table 1 of Annex 2, and for any additional non-recurrent advice, as well as any data collection that are coordinated at the regional level, the scope of relevant data includes:

1. Fisheries independent survey data, details of which are specified in annual data calls. Research surveys at sea are an important method for collecting biological data. In view of their importance in marine regions where stocks are shared, it is appropriate for a sufficient number of research surveys at sea to be carried out. Iceland will determine the appropriate level of survey effort in consultation with ICES.

2. Fisheries dependent data, details of which are specified in annual data calls.

Including:

- i. biological data on all stocks caught or by-caught in commercial and, where appropriate, recreational fisheries including eels and salmon in relevant inland waters, as well as other diadromous fish
 - ii. data to assess the impact of fisheries on the marine ecosystem including by-catch of non-target species, in particular species protected under international law, data on impacts of fisheries on marine habitats, including vulnerable marine areas, and data on impacts of fisheries on food webs;
 - iii. data on the activity of fishing vessels in and outside Icelandic waters, including levels of fishing, and on effort and capacity of the fleet;
3. Other data that supports the Ecosystem Approach and the Fisheries and Ecosystem overviews that are part of the ICES advice deliverables to Iceland.

Annex 6. Fisheries Independent Surveys requiring Icelandic involvement

Survey Code	Survey Name	International coordination	Survey Area *	Starting Year	Quarter	Month	Survey Type
SMB	Spring groundfish survey	NA	Va	1985	1	3	demersal trawl
SMH	Autumn groundfish survey	NA	Va, XIV	1996	4	10	demersal trawl
SMN	Gillnet spawning survey	NA	Va	1996	2	4	Gillnets
CAPW	Capelin winter survey	NA	Va, XIVa, XIVb	1979	1	1,2,3	Trawl-acoustics
CAPA	Capelin autumn survey	NA	Va, XIVa, XIVb, IIa	1980	3,4	9,10,11	Trawl-acoustics
IHERJ	Icelandic herring - juveniles	NA	Va	1976	4	10,11	Trawl-acoustics
IHERA	Icelandic herring - adults	NA	Va	1976	4,1	12,3	Trawl-acoustics
IESSNS	International Ecosystem Survey	ICES	Va, VIX, Vb, IIa	2010	3	7,8	Trawl-acoustics
IESSNS	International ecosystem survey in the Nordic Seas	ICES	Va, VIX, Vb, IIa	1996	2	5	Trawl-acoustics
FLAT	Flatfish juveniles	NA	Va	2017	3	8,9	Beam-trawl

Areas covered by Iceland