Council of the
European Union

Brussels, 1 April 2022
(OR. en)

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PECHE 99
ENV 294
CLIMA 144

NOTE

From:	General Secretariat of the Council
To:	Delegations
Subject:	ClientEarth Request for internal review under Title IV of the Aarhus Regulation in relation to Council Regulation (EU) 2022/109 of 27 January 2022 fixing for 2022 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in Union waters and for Union fishing vessels in certain non-Union waters

Delegations will find attached additional annexes to the note on the above-mentioned subject, as received from ClientEarth.

EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

Fisheries Policy Atlantic, North Sea, Baltic and Outermost Regions
Scientific Advice and Data Collection

SPECIFIC GRANT AGREEMENT NO SI2. 854269

UNDER THE FPA/MARE/ 2018/ ICES

This Specific agreement ("the Specific agreement") is concluded between the following parties:

on the one part,

The **European Union** ("the Union"), represented by the European Commission ("the Commission"), represented for the purposes of signature of this Specific agreement by **Mr. Fabrizio DONATELLA**, Director for Directorate C: Fisheries Policy Atlantic, North Sea, Baltic Sea and Outermost regions,

and

on the other part,

"the Partner"

International Council on the Exploration of the Seas - ICES

Intergovernmental Organisation with legal personality

Entity registration number: 12063814

H.C. Andersen Boulevard 44-46, 1553 Copenhagen V, Denmark

represented for the purposes of signature of the Specific agreement by the ICES General Secretary, **Ms Anne Christine Brusendorff**

The parties referred to above

HAVE AGREED

To the Specific agreement and the following annexes:

Annex I Description of the action

Commission européenne/Europese Commissie, 1049 Bruxelles/Brussel, BELGIQUE/BELGIË - Tel. +32 22991111
Office: J-99 02/059 - Tel. direct line +32 229-51301

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Annex II Estimated budget

ARTICLE 1 – SUBJECT MATTER OF THE SPECIFIC AGREEMENT

The Specific agreement is concluded in the context of the partnership established between the parties. It is drawn up in accordance with the relevant terms of Framework partnership agreement No FPA/MARE/2018/ICES signed between the Commission and the partner on 10 January 2019 (Ref. Ares(2019)340126, reg. 21/01/2019) ("the Framework agreement").

The Commission has decided to award a grant ("specific grant for an action"), under the terms and conditions set out in the Specific agreement and the Framework agreement, for the action entitled **ICES scientific advice** ("the action") as described in Annex I.

By signing the Specific agreement, the partner accepts the grant and agrees to implement the action in accordance with the terms and conditions of the Specific agreement and the Framework agreement, acting on its own responsibility.

ARTICLE 2 – ENTRY INTO FORCE AND IMPLEMENTATION PERIOD OF THE SPECIFIC AGREEMENT

2.1 The Specific agreement enters into force on the date on which the last party signs.

2.2 The action runs for 6 months starting on 1 July 2021.

ARTICLE 3 – MAXIMUM AMOUNT AND FORM OF GRANT

3.1. The maximum amount of the grant is [redacted]

3.2. The grant takes the form of:

(a) The reimbursement of [redacted] of the eligible costs of the action ("reimbursement of eligible costs"), which are estimated at [redacted] and which are:

(i) actually incurred during the implementation period specified in Article 2 ("reimbursement of actual costs") for the following categories of costs for the partner: direct eligible costs and indirect eligible costs (indirect costs are declared on the basis of a flat rate of [redacted] of the total eligible direct costs)

(ii) reimbursement of unit costs: not applicable

(iii) reimbursement of lump sum costs: not applicable

(iv) reimbursement of flat-rate costs: not applicable

(v) reimbursement of costs declared on the basis of the partner's usual cost accounting practices: not applicable

(b) unit contribution: not applicable

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(c) lump sum contribution: not applicable

(d) flat-rate contribution: not applicable

ARTICLE 4 – REPORTING, REQUEST FOR PAYMENTS AND SUPPORTING DOCUMENTS

4.1 Reporting periods

The action is divided into the following reporting periods:

- Reporting period 1: from month 1 to month 6

4.2 Request for second pre-financing payment and supporting documents

Not applicable

4.3 Request[s] for interim payment[s] and supporting documents

Not applicable

4.4 Request for payment of the balance and supporting documents

The partner must submit a request for payment of the balance within 60 calendar days following the end of the last reporting period.

This request must be accompanied by the following documents:

(a) a final report on implementation of the action ('**final technical report**'), drawn up in accordance with Annex IV of the Framework agreement, containing:

(i) the information needed to justify the eligible costs declared or the contribution requested on the basis of unit costs and lump sums (where the grant takes the form of the reimbursement of unit or lump sum costs or of a unit or lump sum contribution, as provided for in Article 3.2(a)(ii) and (iii), (b) or (c)),;

(ii) information on subcontracting as referred to in Article II.11.1(d)(ii) of the Framework agreement;

(b) a final financial statement ('**final financial statement**'). The final financial statement must include a consolidated statement and a breakdown of the amounts claimed by the partner and its affiliated entities.

The final financial statement must be drawn up in accordance with the structure of the estimated budget set out in Annex II of the Specific agreement and in

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accordance with Annex V of the Framework agreement and detail the amounts for each of the forms of grant set out in Article 3.2 for the last reporting period;

(c) a summary financial statement (**'summary financial statement'**).

This statement must include a consolidated financial statement and a breakdown of the amounts declared or requested by the partner and its affiliated entities, aggregating the financial statements already submitted previously and indicating the receipts referred to in Article II.25.3 of the Framework agreement for the partner and its affiliated entities.

The summary financial statement must be drawn up in accordance with Annex V of the Framework agreement;

(d) a certificate on the financial statements and underlying accounts (**'certificate on the financial statements'**) for the partner and for each affiliated entity, if:

(i) the cumulative amount of payments the partner requests as reimbursement of actual costs as referred to in Article 3.2(a)(i) (and for which no certificate has yet been submitted) is [redacted] or more; and

(ii) the maximum grant amount indicated for the partner and its affiliated entities in the estimated budget as reimbursement of actual costs is [redacted] or more.

4.5 Information on cumulative expenditure incurred

Not applicable

4.6 Currency for requests for payment and financial statements and conversion into euro

Requests for payment and financial statements must be drafted in euros.

The partner and affiliated entities with general accounts in a currency other than the euro must convert costs incurred in another currency into euros at the average of the daily exchange rates published in the C series of the Official Journal of the European Union (available at *http://www.ecb.europa.eu/stats/exchange/eurofxref/html/index.en.html), determined over the corresponding reporting period.*

If no daily euro exchange rate is published in the Official Journal of the European Union for the currency in question, conversion must be made at the average of the monthly accounting rates established by the Commission and published on its website (http://ec.europa.eu/budget/contracts_grants/info_contracts/inforeuro/inforeuro_en.cfm), determined over the corresponding reporting period.

The partner and affiliated entities with general accounts in euros must convert costs incurred in another currency into euros in accordance with their usual accounting practices.

4.7 Language of: requests for payments, technical reports and financial statements

All requests for payments, technical reports and financial statements must be submitted in English.

ARTICLE 5 — PAYMENTS AND PAYMENT ARRANGEMENTS

5.1 Payments to be made

The Commission must make the following payments to the partner:

- one pre-financing payment;
- one payment of the balance, on the basis of the request for payment of the balance referred to in Article 4.4.

5.2 Pre-financing payments

The aim of the pre-financing is to provide the partner with a float. The pre-financing remains the property of the Union until it is cleared against interim payments or, if it is not cleared against interim payments, until the payment of the balance.

The Commission must make the pre-financing payment of [redacted] to the partner within 30 calendar days from the entry into force of the Specific agreement, except if Article II.24.1 of the Framework agreement applies.

5.3 Interim payment[s]

Not applicable

5.4 Payment of the balance

The payment of the balance reimburses or covers the remaining part of the eligible costs incurred by the partner for the implementation of the action.

If the total amount of earlier payments is greater than the final amount of the grant determined in accordance with Article II.25 of the Framework agreement, the payment of the balance takes the form of a recovery as provided for by Article II.26 of the Framework agreement.

If the total amount of earlier payments is lower than the final amount of the grant determined in accordance with Article II.25 of the Framework agreement, the Commission must pay the balance within 60 calendar days from when it receives the

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documents referred to in Article 4.4, except if Article II.24.1 or II.24.2 of the Framework agreement apply.

Payment is subject to the approval of the request for payment of the balance and of the accompanying documents. Their approval does not imply recognition of the compliance, authenticity, completeness or correctness of their content.

The Commission determines the amount due as the balance by deducting the total amount of pre-financing and interim payments (if any) already made from the final amount of the grant determined in accordance with Article II.25 of the Framework agreement.

The amount to be paid may, however, be offset, without the partner's consent, against any other amount owed by the partner to the Commission or to an executive agency (under the EU or Euratom budget), up to the maximum amount of the grant.

5.5 Notification of amounts due

The Commission must send a formal notification to the partner:

(a) informing it of the amount due; and

(b) specifying whether the notification concerns a further pre-financing payment, an interim payment or the payment of the balance.

For the payment of the balance, the Commission must also specify the final amount of the grant determined in accordance with Article II.25 of the Framework agreement.

5.6 Interest on late payment

If the Commission does not pay within the time limits for payment, the partner is entitled to late-payment interest at the rate applied by the European Central Bank for its main refinancing operations in euros ('the reference rate'), plus three and a half points. The reference rate is the rate in force on the first day of the month in which the time limit for payment expires, as published in the C series of the Official Journal of the European Union.

Late-payment interest is not due if the partner is a Member State of the Union (including regional and local government authorities and other public bodies acting in the name of and on behalf of the Member State for the purpose of the Framework agreement and the Specific agreement).

If the Commission suspends the time limit for payment as provided for in Article II.24.2 of the Framework agreement or if it suspends payments as provided for in Article II.24.1 of the Framework agreement, these actions may not be considered as cases of late payment.

Late-payment interest covers the period running from the day following the due date for payment, up to and including the date of actual payment as established in Article 5.8. The Commission does not consider payable interest when determining the final amount of grant within the meaning of Article II.25 of the Framework agreement.

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As an exception to the first subparagraph, if the calculated interest is lower than or equal to [redacted] it must be paid to the partner only if the partner requests it within two months of receiving late payment.

5.7 Currency for payments

The Commission must make payments in euros.

5.8 Date of payment

Payments by the Commission are considered to have been carried out on the date when they are debited to its account.

5.9 Costs of payment transfers

Costs of the payment transfers are borne as follows:

(a) the Commission bears the costs of transfer charged by its bank;

(b) the partner bears the costs of transfer charged by its bank;

(c) the party causing a repetition of a transfer bears all costs of repeated transfers.

5.10 Payments to the partner

The Commission must make payments to the partner.

Payments to the partner discharge the Commission from its payment obligation.

ARTICLE 6 – BANK ACCOUNT FOR PAYMENTS

All payments must be made to the partner's bank account as indicated below:

Name of bank: [redacted]

Precise denomination of the account holder: International Council for the Exploration of the Seas

Full account number (including bank codes): [redacted]

[redacted]

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ARTICLE 7 - COMMUNICATION DETAILS OF THE PARTIES

7.1 Communication details of the Commission

Any communication addressed to the Commission must be sent to the following address:

European Commission
Directorate-General MARE
Directorate Fisheries policy Atlantic, North Sea, Baltic Sea and Outermost regions
Unit C3 Scientific Advice and Data Collection
99, Rue Joseph II, 1049 Brussels, Belgium
Email address: MARE-SCIENTIFIC-ADVICE@ec.europa.eu

Any communication addressed to the Commission for the purposes of payment must be sent to the following address:

European Commission
Directorate General for Maritime Affairs and Fisheries
General Affairs and Resources
Unit E1 - Budget, Audit and Public Procurement
99, Rue Joseph II, 1049 Brussels, Belgium
B-1049 Brussels, Belgium

7.2 Communication details of the partner

Any communication from the Commission to the partner must be sent to the following address:

Ms Lotte Worsoe Clausen
Head of Advisory Support
International Council on the Exploration of the Seas
H.C. Andersenboulevard 44-46, 1553 Copenhagen V., Denmark
Lotte.worsoe.clausen@ices.dk

7.3 Communication details of the partner after payment of the balance

After the payment of the balance, any communication addressed to the partner must be sent to its legal address as specified in the "beneficiary Register".

ARTICLE 8 – SPECIAL PROVISIONS ON BUDGET TRANSFERS INVOLVING USE OF PROVISIONS FOR FOREIGN EXCHANGE LOSSES

As an exception to the first subparagraph of Article II.22 of the Framework agreement, any use of the provisions for foreign exchange losses included in the estimated budget in Annex II must be communicated by the partner and approved by the Commission.

SIGNATURES

For the partner	*For the Commission*
Anne Christine Brusendorff i.a. Friedrich W. Koehs ICES President	*Fabrizio Donatella*
[signature]	[signature]
Done at Lyngby, on 5.8.21	Done at Brussels, on .....

In duplicate in English

I. INFORMATION ON THE APPLICANT

1 REFERENCES OF THE APPLICANT
1.1 IDENTITY OF THE APPLICANT
Official name in full: International Council for the Exploration of the Seas
Acronym: ICES
Official legal form: International organisation
Legal personality[1]: YES
Place of establishment or registration: H.C. Andersens Boulevard 44-46, DK 1553 Copenhagen V, Denmark
Entity registration number: 12063814 (Not applicable if the applicant is a public-sector body. For natural persons, the applicant should indicate the number of his/her identity card or, failing that, of his passport or equivalent.)
VAT number (if applicable): N/A

The legal details are attached in the Legal Entity Form [in the annex]

1.2 CONTACT DETAILS	
Street address: H.C. Andersens Boulevard 44-46	
Postcode: 1553	
City: Copenhagen V	
Region (if applicable):	
Country: Denmark	
Telephone: +45 33 38 67 00	Mobile:
Fax: +45 33 13 42 25	
E-mail address: info@ices.dk	
Website: ices.dk	

Any change in the addresses, phone numbers, fax numbers or e-mail, must be notified in writing to the Authorising Officer. The Authorising Officer will not be held responsible in the event that it cannot contact an applicant.

1.3 CONTACT PERSON RESPONSIBLE FOR THE PROPOSAL	
Family name: Clausen	First Name: Lotte Worsøe

[1] Legal personality is understood as applicant's capacity to sign contracts and constitute a party in court proceedings under the applicable national legislation.

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STANDARD GRANT APPLICATION FORM FOR

GRANT FOR AN ACTION

(Monobeneficiary)

PROGRAMME CONCERNED
Grant under Scientific Advice and Knowledge/Action grant without a call for proposals (Mono-beneficiary) under a Framework Partnership Agreement (FPA)
[REFERENCE NUMBER OF THE CALL FOR PROPOSALS]
Not Applicable
SUMMARY OF THE APPLICATION
Title: Advisory deliverables provided by the International Council for the Exploration of the Sea (ICES)
Identity of the applicant: International Organisation
Summary of the action: *This action outlines the annual advisory products provided to the EC, DGMARE from ICES related to Fisheries Management.*
Duration (in months): 01.07.2021 to 31.12.2021
Requested amount (in €):

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Position/Function: Head of Advisory Support	
Telephone: +45 33 38 67 21	Mobile: +45 21 36 28 04
Fax:	
E-mail address: lotte.worsoe.clausen@ices.dk	
1.4 LEGAL REPRESENTATIVE (PERSON AUTHORISED TO SIGN THE AGREEMENT)	
Family name: Brusendorff	First Name: Anne Christine
Position/Function/Mandate: General Secretary	
Telephone: +45 33 38 67 01	Mobile:
Fax:	
E-mail address: anne.christine@ices.dk	

2. BANK DETAILS

The bank details are will be] attached in the Bank Account Form (BAF) [in the annex]

3 PROFILE OF THE APPLICANT	
3.1 PROFILE OF THE APPLICANT — GENERAL AIMS AND ACTIVITIES	
[Year of foundation]:	
The applicant shall state his legal status by ticking one or several options	
☐ Public body	☒ International Organisation
☒ Non-profit making organisation	☐ Social Partner
☐ Educational and training establishment	☐ Research Centre/Institute
☐ Other (please specify)	☐ SME
☐ Natural Persons	
The applicant should provide a short description of the organisation/group including affiliated entities. Where appropriate include information on membership, with respect to the eligibility criteria indicated in the specific call. The International Council for the Exploration of the Sea (ICES) is an intergovernmental marine science organization, meeting societal needs for impartial evidence on the state and sustainable use of our seas and oceans. ICES responds to requests for advice from ICES member countries, international commissions and organizations, and fisheries and ecosystem management bodies.	

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4 INFORMATION ON THE GOVERNANCE OF THE APPLICANT	
4.1 APPLICANT'S STRUCTURE **List the organisations and/or natural persons holding capital or shares in the applicant, where appropriate specifying the proportion held (insert rows if necessary)**	
Organisation/Natural person	**Proportion held**
Member countries: ICES has 20 member countries: Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, United Kingdom, and the United States of America	

4.2 APPLICANT'S MANAGEMENT	
List the members of the applicant's managing board or equivalent body, specifying their profession and position (insert rows if necessary)	
Member	**Profession/Position**
Fritz W. Köster	**President**
William Karp	**First Vice president**
Carl O'Brien	**Vice president**
Gerd Kraus	**Vice president**
Manuela Azevedo	**Vice president**
Per Sandberg	**Vice president**
Pierre Petitgas	**Vice president**

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II. OPERATIONAL AND FINANCIAL CAPACITY

1 OPERATIONAL CAPACITY

1.1 OPERATIONAL CAPACITY TO COMPLETE THE PROPOSED ACTION OF THE APPLICANT

The applicant should provide: a description of its relevant competences and previous experiences as well as those of the key staff who will be involved in the project (according to their profiles or CVs) as a proof of its capacity to implement the action effectively.

ICES has provided advice to the European Commission, DGMARE for more than 30 years and has through this time been the sole advisory body concerning advice for fisheries management.

The ICES structure which outlines the full capacity of the organisation can be found here: Welcome to ICES

2 FINANCIAL CAPACITY

LEGAL NOTICE

This section should not be filled in by applicants who are natural persons in receipt of scholarships or natural persons most in need and in receipt of direct support.

For grants of or below EUR 60 000 as well as for grants to public bodies and international organisations the only supporting document to be required is the Declaration of Honour provided in section 5.

Where the application concerns grants for an action for which the amount exceeds XXX XXX XXX, or operating grants which exceed XXX XXX XXX, an audit report produced by an approved external auditor must be submitted, [except for education and training establishments and, in case of agreements with a number of beneficiaries, beneficiaries who have accepted joint and several liabilities or who do not bear any financial responsibility]. This report shall certify the accounts for the last financial year available.

2.1 PROOF OF FINANCIAL CAPACITY OF THE APPLICANT

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The applicant should provide the following document[s] as evidence of financial capacity:

- *Appropriate statement from banks or tax declaration or evidence of professional risk indemnity insurance (to be provided by natural persons).*
- *Balance sheets or extracts from balance sheets for the last financial year for which the accounts have been closed.*
- *Profit and loss account for the last financial year for which the accounts have been closed. For newly created entities, the business plan will replace closed accounts.*

or

2.1 FINANCIAL CAPACITY OF THE APPLICANT

The applicant must show that it has sufficient and stable sources of funding to carry out the action throughout the entire period for which the action is planned and to participate in its funding. The indicators refer to the last two financial years for which accounts have been closed.

	2019	*2018*
Turnover or equivalent		
Gross operating profit		
Total liabilities		
Equity or equivalent		
Current asset		
Short-term debt (< 1 year)		
Total payroll		

3 GUARANTEES GRANTED BY THIRD PARTIES

(if any – the applicants should state the presence of any guarantees which is provided by one or more third party, for example a State guarantee)

N/A

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III. INFORMATION ON THE ACTION FOR WHICH THE GRANT IS REQUESTED

1 DESCRIPTION OF THE ACTION
Title: Advisory deliverables provided by the International Council for the Exploration of the Sea (ICES)
Reference: FPA/MARE/2018/ICES
a) Describe the general and specific objectives that the action aims to achieve:

ICES will develop advisory deliverables in the context of public policies mentioned in this FPA between ICES and the EC. ICES will provide advisory deliverables which are independent of political influence and subject to best international quality procedures for research and research-based advisory deliverables. The technical basis for the advisory deliverables and the process through which it is produced will be transparent and impartial. The quality of the technical basis will be ensured through internal and external peer review. All advisory deliverables will contain reference to the relevant background analysis documentation, including expert reports, which include information about all the peer reviews undertaken and the result of such reviews.

Union funding will be displayed on the recurrent advice in a footer where all ICES' Clients are mentioned and on non-recurrent advice in the description of the requested advice. The wording will be: "*ICES advice as adopted by its advisory committee (ACOM) is developed upon request by ICES' Clients (the European Union, NASCO, NEAFC, Iceland, Norway and United Kingdom).*" This satisfies Article I.5 in the FPA between the EU Commission and ICES.

The advisory deliverables are in the following structured into 2 overarching work packages, recurrent advice and non-recurrent advice.

The deliverables will be delivered in accordance with the agreed timeline. If the agreed timeline cannot be achieved or postponing would result in deliverables of better quality, the Commission will be consulted on the amendment of the timeline.

Work package 1: Recurrent advice

This work package is split into 3 sub-work packages encompassing all recurrent advice deliverables (WP1.1), the quality assurance framework behind all advice products (WP1.2) as well as the data and information management part of the advisory work (WP1.3):

WP 1.1 Advice deliverables

- Del 1.1.1: Recurrent single stock advice deliverables
- Del 1.1.2: Mixed fisheries advice
- Del 1.1.3: Fisheries and Ecosystem Overviews
- Del 1.1.4: Re-opening procedure
- Del 1.1.5: Seabass tool
- Del 1.1.6: Presentation of advice to ACs and EC structures

WP 1.2 Quality assurance of advice deliverables

- Del 1.2.1: Web based stock status (SAG, SID)
- Del 1.2.2: Web based recalculation of assessment (TAF)
- Del 1.2.3: 2 year forecast of planned benchmarks
- Del 1.2.4: RCG feedback and interaction, including SharePoint sites
- Del 1.2.5: End user feedback to Liaison Meetings, STECF and JRC

WP 1.3 Data and Information Management of advisory deliverables

- Del 1.3.1: Complete data records (DATRAS, RDBES, InterCatch, Catch stats, TAF, SAG)
- Del 1.3.2: Data calls (SID, Accessions, DATRAS, RDBES)

Work package 2: Special Requests – non-recurrent advice

This work package encompasses all non-recurrent advice requests from DG Mare. Each deliverable will thus be a specific special request with the associated process and deliverables.

To address requests for advice ICES is dependent on the clients having clearly defined the question(s) to be addressed along with the objectives and criteria to be considered so that the advice is appropriately developed. An important element of the advisory process is therefore the dialogue with the clients to achieve a common understanding on how to interpret the requests, the type of advice the clients expect, and what ICES can deliver.

b) Describe the work programme (on the basis of the main activities planned) and where it will be implemented

Work package 1: Recurrent advice

Work package 1.1 Advice deliverables

The advisory deliverables are divided into specific deliverables as described below. Each deliverable is thus an advice product and underpinned by the deliverables in Work packages 1.2 and 1.3.

Deliverable 1.1.1: Recurrent single stock advice deliverables

The EC will receive management advice on fishing opportunities and associated conditions (e.g. technical measures, inter-linked environmental) where relevant for the commercial fishery and for recreational catches or fisheries, for the stocks and areas indicated in Annex III with reference to the policy basis for that advice. The formal advice shall stand out on the front page of the advice document. The policy basis is defined by the CFP Basic Regulation 2013/1383, which sets the general MSY target and by the relevant Multiannual Management Plans agreed at EU level, notably the Baltic, North Sea and Western Waters MAPs.

ICES will provide the advice expressed in catches. Where relevant, ICES will provide information on the corresponding expected landings and discards.

Where an EU Multi-Annual Plan is in force or enters into force before the release of the advice for all stocks that are defined as targeted stocks in these plans, the headline advice will be for TACs corresponding to ranges of FMSY where such ranges are available and an indication of the catches corresponding to FMSY point value (see Annex III for details).

For stocks that are covered by an EU Multi-Annual Plan but which are not defined as targeted stocks, the headline advice will be based on the MSY approach, where available.

For stocks subject to an Advisory Council management plan or a management plan on a particular species or by a particular EU MS that has been assessed by ICES and evaluated as precautionary and, where applicable, of the EU multiannual plans, the management plan TAC should be included in the catch scenarios table. The MSY approach shall remain in the headline advice.

For stocks that are under shared management between the EU and third countries the standard ICES advice rules are followed for the headline advice, except in cases of an agreed management strategy between Coastal States. For such stocks under shared management that are also covered by an EU Multi-Annual Plan, ICES will include the following sentence in the headline advice: 'ICES notes the existence of a precautionary management plan developed and adopted by one/some of the relevant management authorities for this stock.' In these cases, ICES will include a sentence in the relevant part of the summary sheet stating the FMSYupper, FMSYpoint and FMSYlower values according to the EU MAP in question.

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ICES will supply an overview of current known management strategies and plans by stock in start-January for confirmation.

For stocks for which advice will be provided less frequently than the yearly basis, the management advice will introduce figures for each of the years for which the advice is valid.

For stocks where the SSB is below or within uncertainty bounds of Btrigger, ICES will include, where possible, a catch scenario that, when applied, would keep the SSB stable. ICES will only include such a scenario in cases where the catch advice under this scenario would be in line with MSY and/or precautionary advice, depending on the category of the stock.

Where recreational fisheries take a significant part of the catches, scenarios referred to above shall be calculated assuming that changes in fishing mortality are caused by the commercial fishery alone, the recreational fishery alone and a combination of the two.

In addition, in the light of available information, ICES will review and incorporate in its stock assessment exercises all management measures and options agreed in regulatory arrangements concerning stocks and fisheries and will comment on their contribution to reaching MSY objectives.

For non-TAC regulated species, no specific catch advice is requested by the EU. The advice will thus be limited to the stock status and information on catches. Exceptions to this approach are indicated in Annex III.

For stocks with no analytical assessment, ICES will use the available data, together with the basic fisheries population dynamics principles, information from comparable cases and best available science in order to provide the best possible advice on fishing opportunities, corresponding to agreed management objectives.

For stocks where ICES indicates that information is insufficient to carry out the analyses to provide the advice as agreed with the EC, ICES will inform the EC of the insufficiencies with the aim to enable ICES to carry out the required analyses. This will include information on research needs or missing data that will improve the quality of the scientific advisory deliverables related to stock assessments.

Supportive information to the assessment and advice will be the following:

1) Information about the level of confidence in the parameters underlying the scientific advisory deliverables and the origins and causes of the main uncertainties in the information available (e.g. data quality, data availability, gaps in methodologies and knowledge) which have been taken into account for the assessment and the advice;
2) A full methodological description of the biomass distribution when a stock is distributed in several management areas

Considering that stock areas do not always match the management areas, ICES will provide the EC with supplementary information on fishing opportunities being consistent with the advice in support of management. To this aim, ICES will apply the following guidelines:

3) If the stock area is identical to the management area, the advice in support of management applies directly to the management area.
4) If more than one stock is merged into one management area, fishing opportunities computed for the management area will be equal to the sum of the advice in support of management for individual stocks – possibly with a requirement for additional measures to prevent disproportionate (unsustainable) harvest on any single stock within the management area.
5) If the stock area covers more than one management area, the sum of fishing opportunities computed for each management area should not exceed the advice in support of management for the stock.
6) If the stock areas and management areas do not map in either way as described above, specific distributions of stocks on management areas need to be identified.

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For situations 4-6 above ICES can provide information about the implications of stock management advice regarding management areas provided that the EC has provided guidance on the principles to be used for such calculations in each case. If the EC is not in a position to provide guidance on the principles ICES may provide the information assuming the same distribution of catches by stock and area as observed in recent years. Species and management areas where ICES is requested to provide this additional information on fishing opportunities consistent with the stock management advice are listed in table b of Annex III.

Deliverable 1.1.2 Mixed-fisheries advice

ICES will provide the EU with illustrative scenarios for mixed fisheries, where possible, for all relevant species and areas for which appropriate models are available, consisting of sets of catch scenarios consistent with the objectives of the CFP. ICES will take the single stock advice into account when preparing its mixed-fisheries advice, with the aim of ensuring maximum coherence between the two. ICES will also strive to produce mixed fisheries advice for following areas: North Sea, Celtic Sea, Bay of Biscay and Southern Iberian waters by the end of November (30th of November 2021). ICES will inform the Commission in advance if it is not able to meet these deadlines. Further explorations and development of mixed fisheries advice will be undertaken to assess the feasibility of producing earlier mixed fisheries advice in the future for certain stocks and areas.

Deliverable 1.1.3 Fisheries and Ecosystem overviews

Advice on fishing opportunities will be delivered in the context of an ecosystem approach that is consistent with the objectives as formulated in relevant EU policies (i.e. CFP and MSFD). The ecosystem approach is being implemented incrementally in the advice on fishing opportunities and will be supported by information and advice provided in Fisheries Overviews and Ecosystem Overviews.

Specifically, ICES will, to the extent possible:

1) Provide an updated web-based overview of the status of each assessed stock.
2) Advise the EC on any significant impact of factors and changes in the marine ecosystem structure or functioning that significantly impact fish and shellfish stocks and their long-term exploitation;
3) ICES will provide, on the basis of data provided by Member States and any other relevant data sources, annual estimates of the numbers of specimens of sensitive species (as defined in Article 6(8) of Regulation (EU) 2019/1241) excluding fish species caught incidentally in fishing activities, disaggregated by sea area and type of fishing gear. These estimates shall be accompanied with evaluations or estimates of their accuracy where possible. They shall be provided by December each year and shall cover incidental catches made until 31 December of the previous year. ICES shall progressively accompany these estimates with calculated values of potential biological removal (PBR), or alternative markers of sustainability where appropriate.
4) ICES will, to the extent possible, provide information regarding the impact of fisheries on ecosystems and habitats.
5) ICES will provide warnings of any serious threats (i.e. if there is at this moment, a threat to the abundance posing a risk so serious that it would be unwise to postpone action) 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.
6) Provide an overview of the mixed fisheries considerations on a regional level.
7) Identify existing inter-species and intra-species interaction of relevance to the fisheries management and the existing management strategy (and consequently the advisory deliverables). ICES will develop a roadmap for addressing inter-species and intra-species interaction of relevance to the implementation of the Multi Annual Plans for the Baltic Sea, North Sea and Western Waters.
8) Describe the biological interactions between fish stocks and with the marine ecosystem of relevance for management of the fisheries.

Deliverable 1.1.4 Re-opening procedure

When criteria for a re-opening procedure are met, ICES will provide in-year re-assessments for the following 8 North Sea stocks: Cod in Subarea 4, Division 7.d and Subdivision 20; Haddock in Subarea 4 and Division 6.a and Subdivision 20; Saithe in Subarea 4, 6 and Division 3.a; Whiting in Subarea 4 and

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Division 7.d; Nephrops in FU6; Nephrops in FU7; Nephrops in FU8 and Nephrops in FU9. These assessments will be provided as soon as possible, depending on the availability of the surveys.

The re-assessments will be carried out following procedures adopted by ICES (process procedure) including updates when ICES considers that newly available data will significantly change conclusions of the stock size or the advice on fishing possibilities. In the case that such updates may be relevant due to data from one or more countries not being available for the initial advice, there will be a specific agreement between ICES and the EC on whether an update will be required.

Deliverable 1.1.5 Seabass tool

ICES will annually update the seabass tool that was introduced in 2019 (https://ices-taf.shinyapps.io/seabass-management-tool-AGE/) to reflect the most recent available data on seabass (*Dicentrarchus labrax*) catches in divisions 4.b–c, 7.a, and 7.d–h (central and southern North Sea, Irish Sea, English Channel, Bristol Channel, and Celtic Sea) . The seabass tool was built upon the legislation in place in 2019, should this legislation change, ICES cannot readily update the seabass tool and an updated version of the tool must be requested. This request can either be a unilateral request by the EU or a jointly request by the EU and UK (done by the Specialised Fisheries Committee). ICES will aim to have this update available by August every year.

Deliverable 1.1.6 Presentation of advice to ACs and EU structures

ICES will, on request, present the advice to EU Institutions and Committees including the Fisheries Committee of the European Parliament, ACs and stakeholder meetings organised by the EC. Presentations will be made by the Chair of ACOM or their designee. ICES will participate, on request, in an annual meeting/seminar on scientific advice, organised by the EC. ICES will present an overview and matters relevant to the scientific advice, including the underlying scientific knowledge for the scientific advisory process (e.g. fish population dynamics, stock assessment and modelling approaches, concepts on reference points, developments on mixed fisheries advice, multi-species advice and advice on data limited stocks, sensitive species and habitats advice and Ecosystem approaches and the link to Good Environmental Status).

Work package 1.2 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.

Deliverable 1.2.1 Web based stock status (SAG, SID)

SAG and SID 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. These portals also offer web services that are used by STECF/JRC.

Deliverable 1.2.2 Web based recalculation of assessments (Transparency Assessment Framework - TAF)

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 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.

Deliverable 1.2.3 Benchmark overview

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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.

Deliverable 1.2.4 RCG support and involvement

ICES will support the implementation of the DCF by facilitating planning expert group meetings related to data collection. In particular, ICES will assist the EC by implementing data collection community websites supporting exchange of information between scientific experts involved in the preparation for, the work during, and the follow-up after Regional Coordination Groups (RCGs) related to the DCF. In addition, ICES should participate in RCGs by presenting and discussing, among others, the ICES data needs for the relevant region and the work carried out by relevant ICES Expert Group (EGs).

Deliverable 1.2.5 End-user feedback to Liaison Meetings and STECF

ICES will communicate to the EC any problems encountered with data transmitted by Member States in the framework of data calls launched by ICES. This shall in particular apply to data collected through the DCF.
ICES will provide information on timeliness of submission, coverage and quality of collected data, relevant to the use for the advisory deliverables. The previous year's annual information will be provided through the data transmission IT platform of JRC in the first semester of each year. It will consist of an account of issues of DCF data transmitted to ICES. The issues should clearly identify the type of data, stock (if the data concerned is needed for fish stocks assessment, and Member State, using the above mentioned categorisation (timeliness, coverage, quality) and be self-explanatory. ICES will indicate the impact of these shortcomings on the provision and quality of scientific advice (severity). ICES should not only provide feedback on data transmission problems concerning Member States, but also provide assistance to the EC in clarifying the responses of Member States to these ICES comments to the extent that these responses relate to ICES' use of the data.

Work package 1.3 Data and information Management of advisory deliverables

Data collection is the responsibility of ICES Member Countries, and while ICES has a clear responsibility to quality assure data used in advice it relies on national processes on which ICES has very limited influence. ICES current work on databases, data submission standards and procedures, and data processing is crucial to assess the quality of data being provided by member countries and being used in the provision advice deliverables.

Deliverable 1.3.1 Complete data records

A number of databases and online data portals related to the preparation, quality control, ingestion and processing of input data to Advice deliverables are used by ICES in order to make available complete data records. These systems include Fisheries dependent and independent data sources, sampling design, detailed and aggregated output data and data products, and fisheries assessment results. Examples of these portals include (but are not limited to) DATRAS, RDBES, Acoustic portal, TAF. Management of these portals includes maintenance, product development, vocabulary management, bug fixing, user helpdesk, attending and reporting to Advice related expert group meetings, support to the RCG's and STECF meetings, and the specification and processing of data calls to relevant parties.

Deliverable 1.3.2 Data calls

ICES data calls requesting data collected under the EU Regulation No. 2017/1004 will respect all notification periods defined in article 17 of the regulation, and where possible additional notice will be given to member states. Data calls requesting data collected under the EU Regulation (EC) No 2017/1004 should include a reference to guarantees on personal data protection, in accordance with the Article 2 of the Regulation (EC) No 2017/1004.

ICES will inform the EC on data issues significantly affecting the scientific advisory process via the annual data transmission reporting. In the view of the 2019 evaluation of research surveys at sea under the EU MAP, ICES will inform the EC on the current use of survey data in the scientific advisory process. Review

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of survey input and settings for each stock assessment will be done in the benchmark process, which the EC will be briefed on (deliverable 1.2.3).
ICES should provide advice to the EC as to the optimal timing of scientific advice given to the EC, taking into consideration the time lag for data availability, and subsequent data processing, in relation to the deadline of a data call. ICES publishes it data calls on a public web page[2]

Work package 2: Special Requests – non-recurrent advice

Non-recurrent advisory and other scientific or technical deliverables, training of EU personnel, or other activities may be requested by the EC. ICES will strive to fulfil such requests according to mutually satisfactory agreements between the Parties, which will specify the nature, the scope, the duration and the maximum associated costs.

Non-recurrent advisory deliverables may concern any request for advice from ICES in the context of the development and implementation of the CFP, of the MSFD (Directive 2008/56/EC) and of other EU legislation. The non-recurrent advisory deliverables are agreed with ICES and DGMARE when the need for these arise and are settled within the budget of the Specific Grant Agreement to the extent this is possible. Should non-recurrent requests arise which are estimated to exceed the remaining budget for these in this agreement, ICES and the EC will discuss on the possibility to enlarge the budget for non-recurrent advice products.

A few examples of non-recurrent advice requests:

1) the state of fish stocks and related data issues;
2) the state of the marine environment or specific themes relating to this question for which ICES can mobilise expertise;
3) development and evaluation of operational management options, like Fmsy ranges or Technical Conservation Measures, considered for themselves and applied to multi-annual management of fish stocks and fisheries or as part of multi-annual plans;
4) evaluations of multi-annual plans, in particular between the EU and other ICES members, whether for a single stock or species or for a multi-stock fishery; the deliverable should be complementary to the related development and evaluation process established under the STECF framework, taking into account the methods and standards established therein;
5) providing training support to the EC (EU officials and interested stakeholders)
6) Revision or update of the advice on the "existing deep-sea fishing areas" in relation to Regulation (EU) 2016/2336, called the Deep-sea access regulation, in light of new records submitted to ICES for vessels' deep-sea fishing during the reference years 2009-2011.
7) identification and mediation of access to independent experts to conduct reviews of scientific documents or to provide other assistance. ICES will be responsible for identifying experts, but the product provided is solely the responsibility of the experts.

In the preparation of a recurrent advice on likely occurrence of Deep Sea VME's, ICES be requested in a 2 year process to establish a process allowing update of the advice provided in relation to Regulation (EU) 2016/2336, called the "Deep-sea Access Regulation", establishing the list of areas where VMEs are known to occur or are likely to occur. The process leading to the provision of the final advice, requested in 2019 and based on ICES VMEs database, has shown the need to review the advice in light of yearly incoming data into the database. ICES will be able to update the existing advice with the new data provided by the 2021 data call as a special request.

c) Methodology to be followed/project implementation

ICES has developed a comprehensive framework including a set of advice rules to be applied when addressing requests for advice on fishing opportunities. These conform to international agreements to which the EU is a signatory and to the objectives of the CFP. The ICES approach to advice on fishing opportunities integrates

[2] http://ices.dk/marine-data/tools/Pages/Data-calls.aspx

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ecosystem-based management with the objective of achieving maximum sustainable yield (MSY). The aim is, in accordance with the aggregate of international guidelines, to inform policies for high long-term yields while maintaining productive fish stocks within healthy marine ecosystems. Annex 2 of the UN Fish Stocks Agreement (UN, 1995) contains guidelines for applying a precautionary approach within an MSY framework. In accordance with a precautionary approach, populations need to be maintained within safe biological limits to make MSY possible. However, within safe biological limits, an MSY approach is necessary to achieve MSY. A precautionary approach is a necessary, but not a sufficient condition for MSY.

Maximum sustainable yield is a broad conceptual objective, aimed at achieving the highest yield over the long term. It is non-specific with respect to: (a) the biological unit to which it is applied; (b) the models used to provide scientific advice; (c) the definition of yields; and (d) the management methods used to achieve MSY. The MSY concept can be applied to an entire ecosystem, a fish community, or a single stock. ICES applies the MSY concept to single stocks as well as to groups of stocks in the context mixed fisheries, where stocks are caught together in a fishery. ICES interpretation of MSY is maximizing the average long-term yield from a given stock while maintaining productive fish stocks within healthy marine ecosystems. In relation to MSY, ICES defines yield to be maximised as the wanted part of the catch measured in weight, i.e. the part of the catch that is landed and above any agreed minimum conservation/reference size.

Many of the models (mathematical and conceptual) used to estimate MSY and associated parameters typically assume that factors not explicitly included in the models remain constant or vary around a historical long-term mean. However, marine ecosystems are dynamic and fish stocks will change not only in response to the fisheries, but also to changes in fishing patterns and fishing pressures on their prey or their predators as well as climate changes. ICES therefore considers MSY reference points to be valid only in the medium term and to be subject to regular reviews.

To support the stock by stock management system, ICES provides advice on fishing opportunities and stock status for individual stocks. In addition to the single stock advice, ICES also provide mixed fisheries considerations, fisheries and ecosystem overviews, which encapsulate the technical and biological interactions between stocks at an ecoregion scale.

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 the purposes of identifying the advice rule to be applied when giving advice on fishing possibilities, ICES classifies the stocks into six main categories on the basis of available knowledge.

- Category 1 – stocks with quantitative assessments. Includes the stocks with full analytical assessments and forecasts as well as stocks with quantitative assessments based on production models.
- Category 2 – stocks with analytical assessments and forecasts that are only treated qualitatively. Includes stocks with quantitative assessments and forecasts which for a variety of reasons are considered indicative of trends in fishing mortality, recruitment, and biomass.
- Category 3 – stocks for which survey-based assessments indicate trends. Includes stocks for which survey or other indices are available that provide reliable indications of trends in stock metrics, such as total mortality, recruitment, and biomass.
- Category 4 – stocks for which only reliable catch data are available. Includes stocks for which a time-series of catch can be used to approximate MSY.
- Category 5 – landings only stocks. Includes stocks for which only landings data are available.

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- Category 6 – negligible landings stocks and stocks caught in minor amounts as bycatch. Includes stocks where landings are negligible in comparison to discards and stocks that are primarily caught as bycatch species in other targeted fisheries.

For category 1 and 2 stocks ICES provides advice in accordance with agreed management plans/strategies evaluated to be consistent with the precautionary approach. If such plans/strategies are not agreed or have been evaluated by ICES not to be precautionary, ICES will give advice on the basis of the ICES MSY approach. For category 3–6 stocks, the available knowledge is insufficient to apply the ICES MSY approach and the advice rule is based on the precautionary approach. However, ICES has developed an approach to determine proxies for MSY reference points for some stocks in categories 3 and 4. Based on these proxies, ICES will assess the state of the stocks and their exploitation relative to MSY criteria. ICES is in the process of developing MSY advice for all stocks that are listed as target stocks in the MAPs; the possibility for such advice for 2022 / 2023 is indicated by stock in Annex III.

The reasons why MSY advice for target stocks (e.g. those described in the MAPs and pelagics) is not available will be summarised by ICES.

Limitations on fisheries may be required to achieve environmental objectives, especially regarding biodiversity, habitat integrity and food webs. This will not affect the catch that can be taken from a stock in accordance with the objectives of MSY and the precautionary approach and will therefore not affect ICES advice on fishing possibilities. However, the limitations may affect the possibilities for the fisheries to fully utilize the advised fishing possibilities. ICES may, if requested, advise on the likely impact of such limitations on the catch but will, as explained, not include such considerations in the advice on fishing opportunities.

To ensure ICES can provide the best possible advisory products, ICES science will continue to explore methodologies to assess the risks of the use of certain fishing gears and aquaculture techniques in order to minimise, to the extent possible, the negative impacts of fishing and aquaculture activities on the marine environment

d) Expected results and their use:

In addition to the management advice detailed under 1.1.1 the main expected results are:

a) The results of the assessment process for the overall status of the stock and its exploitation rates and patterns: information on each stock both in terms of biomass as regards the state of the resources and its distribution, its reproductive capacity, whether it is within safe biological limits as defined in the CFP, and in terms of fishing mortality as regards the level of harvest as identified under the precautionary approach in order to maintain a historical time series;
b) Where possible an annual analysis of the long-term development of stocks and their exploitation in relation to reference points and MSY points and ranges (as applicable), and the objectives in Art. 2.2 of Regulation (EU) 1380/2013, also taking into account influences on biomass that are not related to fisheries, such as ecosystemic, trophic or other factors. Where possible, the relation between the level of exploitation and the biomass development shall be addressed.
c) The stock-relevant (precautionary, target and limit) reference points, including the Fmsy ranges for all stocks where ranges are available.
d) Catch scenarios: Different catch simulations will be described together with their respective impact on the biomass levels. Those catch simulations may include:
    a. catch scenarios corresponding to fishing at unchanged fishing mortality rates, at Flim, and at Fpa;
    b. catch scenarios corresponding to fishing at the upper and at the lower boundary of the MSY fishing mortality range and a number of intervals within the Fmsy range, for stocks where these values are not provided in the headline advice (i.e. stocks shared with third countries and stocks that are not under a EU Multi-Annual Plan. For details see Annex III);
    c. catch scenarios corresponding to fishing at fishing mortality rates that will lead to stock biomass at levels corresponding to the limit reference point, the PA reference point, and the MSY Btrigger reference point, and at levels that would produce MSY in the long term;
    d. a catch scenario with MSY objectives achieved in 2022
    e. a catch scenario that results in a stable SSB.

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f. ICES will add, where possible, a column to the catch scenarios table presenting the resulting SSB change for the next two years.

Scenario e) will be tested for selected stocks in the North Sea and the Celtic Sea, including northern seabass for advice published in 2021 and 2022.

The Commission will use ICES advice and other deliveries described above for the preparation of its proposals on the 2021 fishing opportunities in the Baltic, North Sea and Atlantic. The Multiannual Management Plans for, respectively, the Baltic, North Sea and Western Waters, rely strongly on ICES advice for the determination of ranges and limit values for the relevant stocks, as well as for providing the best scientific advice on the level of fishing opportunities to be set at EU level.

e) Arrangements for monitoring/supervision of the operation and risks involved in its implementation:

ICES advisory process has several steps which all are agreed by the Advisory Committee and outlined in the Annual Work Programme (see section 2). The steps are the following for each advisory process:

- A request for advice is received from a client
- Data are provided to expert groups based on data calls and database contents, which then make assessments and draft a first scientific/technical response to the request
- Expert group reports are peer-reviewed by internal audits
- In cases of stock assessments where the benchmark (established assessment method to be used) has been agreed upon, the reviewing is carried out within the expert group and then followed by an advice drafting group
- The expert group report together with the review is used in the advice drafting group
- Draft advice prepared by the advice drafting group is discussed and finally approved by the Advisory Committee (ACOM)
- The advice is delivered to the client by electronic communication and made available on the ICES Website

Annex III provides a detailed timeline for the provision of advice by stock.

ICES aims at producing advice based on the best available science that is characterised by quality assurance, developed in a transparent process, unbiased, independent, and is recognised by all parties as being relevant to management. The scientific basis for the advice is developed by expert groups. An advice drafting group prepares the advice based on the findings of the expert groups. The advice prepared by the advice drafting group is finalised and adopted by ICES Advisory Committee (ACOM).

ICES operates a peer-review system. The scientific basis for responses to non-recurring requests for advice is subject to a peer-review process, before or in conjunction with the advice drafting group. For recurrent advice on fishing opportunities ICES has implemented a benchmark process in which the methods, including the data series to be used by the Expert Groups in addressing the requests, are developed. The results from the benchmarks are subjected to a peer-review process similar to the process for non-recurrent requests.

The risks involved in the implementation are twofold: 1) late delivery of advice due to necessary updates or other reasons (i.e. corrections). Late delivery may imply that the Commission cannot use the advice for the development of its proposals. In these cases, ICES will inform the Commission as soon as a delay in the advice becomes apparent. 2) the results of the scientific stock assessment do not allow of the delivery of the advice corresponding to management needs (i.e. MSY advice) due to lack of data or other methodological issues. For stocks assessed at MSY, ICES will inform the Commission as soon as it becomes apparent that this stock will lose its MSY status in the forthcoming advice.

f) Sustainability of the project's achievements:

The International Council for the Exploration of the Sea (ICES) is an intergovernmental [1] marine science organization headquartered in Copenhagen, Denmark. ICES coordinates and promotes research on oceanography, the marine environment and ecosystems, and living marine resources in the North Atlantic and adjacent sea areas. The main objective of ICES is to increase the scientific knowledge of the marine

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environment and its living resources and to use this knowledge to provide unbiased, non-political advice. ICES supports its Member Countries and international governmental organization like the EU Commission, NEAFC, NASCO, NAFO, NAMMCO, OSPAR and HELCOM by providing scientific information and knowledge and advice on ecosystem, fisheries and aquaculture issues.

ICES has established a formal cooperation structure to support its work, which also ensures that the advisory requests are answered including the best available science, data and information. This formal cooperation structure relies on the ICES legal framework established by the 1964 Convention, confirmed by the 2002 Copenhagen Declaration, and cooperation dating back to 1902 with the establishment of the organization.

While advice requesters are paying for the advisory services they request from ICES, according to the 100 % cost recovery principle, our member Countries pay annual contributions to support further development of science and data, taking into account exploratory findings, innovative methods, and international developments.

[1] ICES has 20 member countries: Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, United Kingdom, and the United States of America.

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2 PLANNED DURATION OF THE ACTION (in months):
Planned starting date: 6 months (starting date July 1st 2021)

Activity	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Preparation Activity (Annual Work Programme establishment)			ACOM		Bilateral meeting	
Implementation Activity (Baltic Sea advice)			Western Baltic Cod			
Implementation Activity (North Sea advice)			Norway Pout/ /North Sea Autumn Spawning herring	Pandalus (other stocks), reopening	Nephrops stocks	
Implementation Activity (Mixed fisheries advice)					X	
Implementation Activity (Southern Horse mackerel, anchovy, sardine stocks						Bay of Biscay, other sardine and anchovy stocks
Implementation Activity (Data needs, quality, timeline, data calls, end-user feedback)		X	X	X		
Implementation Activity (Bycatch advice)						X
Implementation Activity (Elasmobranch stocks)				X		
Implementation Activity (Widely distributed stocks)			X			

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Implementation Activity (eel)					X	
Implementation Activity (Nephrops stocks, Rockall megrim, Anglerfish 3a46,)				X		
Implementation Activity (Seabass tool)		X				
Implementation Activity (Fisheries Overview)		Baltic			X	
Implementation Activity (Ecosystem Overview)						X
Implementation Activity (VME advice)			X			

3 BUDGET
Estimated Budget - Annex 2 Applications must include a detailed estimated budget in balance in which all costs and contributions are given in euros. Applicants from countries outside the euro zone may use [the conversion rates published in the Official Journal of the European Union, series C, during the month in which they are submitting the application] [the monthly rate published on the Commission's website at www.ec.europa.eu/budget/inforeuro/].

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IV. ADDITIONAL FUNDING

1 UNION FUNDING
1.1 APPLICATIONS AND/OR ONGOING FUNDING OF THE UNION
Has the applicant or any of the affiliated entities received or applied for any Union funding for the same action or part of the action or for its functioning during the same financial year? ☒ NO ☐ YES – Continue to the following table

LEGAL NOTICE
The applicant must inform the Commission department to which this application is submitted if any of the above-mentioned applications for funding made to other European Commission departments or Union Institutions or bodies/agencies is approved by them after the submission of this grant application.

2 OTHER SOURCES OF EXTERNAL FUNDING – NON UNION
2.1 SUPPORT AWARDED
Has the applicant or any of the affiliated entities already received confirmation relating to any external funding for the action? ☐ NO ☒ YES – Continue to the following table

CONTRIBUTIONS BY THIRD PARTIES

The applicant should indicate the details of the third party following the model below – Third parties must be the same as those listed in the budget (add rows if necessary)

Third Party 1	
Official name in full	NEAFC, NASCO, Iceland, Norway, and UK
Official address	N/A
Estimated amount of funding to be provided for the operation	
Conditions or reservations for receiving the contributions (if any)	

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2.2 REQUESTED SUPPORT
Has the applicant or an affiliated entity requested, applied or is awaiting confirmation relating to any external funding carmarked for the action? ☒ NO ☐ YES – Continue to the following table

If processing your reply to the invitation to submit a proposal involves the recording and processing of personal data (such as your name, address and CV), such data will be processed pursuant to Regulation (EC) No 45/2001 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data. Unless indicated otherwise, any personal data requested are required to evaluate your application in accordance with the invitation to submit a proposal and will be processed solely for that purpose by DG MARE, Unit C3. Details concerning the processing of your personal data are available on the privacy statement at: https://ec.europa.eu/info/data-protection-public-procurement-procedures_en.

Your personal data may be registered in the Early Detection and Exclusion System (EDES) if you are in one of the situations mentioned in Article 106 of the Financial Regulation[3]. For more information, see the Privacy Statement on http://ec.europa.eu/budget/explained/management/protecting/protect_en.cfm

Annexes: - Budget

- Declaration of honour by the applicant

- Bank Account Form (BAF)

- Legal Entity Form (LEF)

-Statutory documents and consolidated accounts

[3] Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002 (OJ L 298 of 26.10.2012, p. 1) as amended.

CHECK-LIST FOR APPLICANTS

This check list shall be adapted according to the options chosen within the form and completed according to the special requirements defined for the programme or call for proposals

All sections of the application form have been filled in, where appropriate, in accordance with the guide for applicant or any other document provided as guidance related to the programme concerned.	☒
The budget annex has been duly filled in and is attached.	☒
Legal details have been included in the Legal Entity Form annexed.	☒
Bank details have been included in the Bank Account Form.	☒
Appropriate statement from banks or tax declaration or evidence of professional risk indemnity insurance has been included.	☐
Balance sheets or extracts from balance sheets for the last year for which accounts have been closed have been included with the application form.	☒
Profit and loss account for the last financial year for which the accounts have been closed has been included with the application form.	☒
Audit report by an approved external auditor on the accounts of the last financial year available has been included with the application form	☒
Declaration of honour has been signed and attached.	☒

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Stock Name	Stock key label	Stock category	Year of next assessment	Periodicity (in years)	Month of release	Advice category for 2021; for MSY ranges should be provided where available	MSY advice basis under development (UD)/not possible (NP) for next advice	EG	COMMENT	Target stock according to MAP	Advice category according to legal obligation
Angel shark (Squatina squatina) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	agn.27.nea	6.3	2023	4	October	PA		WGEF			PA
Alfonsinos (Beryx spp.) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	alf.27.nea	5.2	2022	2	June	PA	NP	WGDEEP			PA
Anchovy (Engraulis encrasicolus) in Subarea 8 (Bay of Biscay)	ane.27.8	1	2021	1	December	MP		WGHANSA			MP
Anchovy (Engraulis encrasicolus) in Division 9.a (Atlantic Iberian waters)	ane.27.9a	3	2021	1	June	PA		WGHANSA			PA
Anglerfish (Lophius budegassa, Lophius piscatorius) in Subareas 4 and 6, and Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat)	anf.27.3a46	3.2	2021	1	October	PA	NP	WGCSE	This is a category 3 stock with no reference points and no FMSY ranges. The stock was benchmarked in 2018 but it did not result in any change in assessment methodology and the stock remains as category 3	x	MSY
Black-bellied anglerfish (Lophius budegassa) in Subarea 7 and divisions 8.a-b and 8.d (Celtic Seas, Bay of Biscay)	ank.27.78abd	3.2	2021	1	June	PA	NP	WGBIE	This is a category 3 stock with a FMSY proxy reference point and no FMSY ranges. The stock was benchmarked in 2018 but it did not result in any change in assessment methodology and the stock remains as category 3.	x	MSY
Black-bellied anglerfish (Lophius budegassa) in divisions 8.c and 9.a (Cantabrian Sea, Atlantic Iberian waters)	ank.27.8c9a	2	2021	2	June	MSY		WGBIE	Category 2 stock with MSY based advice after benchmark 2021	x	MSY
Greater silver smelt (Argentina silus) in subareas 1, 2, and 4, and in Division 3.a (Northeast Arctic, North Sea, Skagerrak and Kattegat)	aru.27.123a4	3.2	2021	2	June	PA	UD	WGDEEP			PA
Greater silver smelt (Argentina silus) in divisions 5.b and 6.a (Faroes grounds and west of Scotland)	aru.27.5b6a	2	2021	1	June	MSY		WGDEEP	Benchmarked in 2021, now a Cat.1 stock		PA
Blue ling (Molva dypterygia) in Subarea 14 and Division 5.a (East Greenland and Iceland grounds)	bli.27.5a14	3.3	2021	1	June	PA		WGDEEP	Was no advice for 2021		PA
Blue ling (Molva dypterygia) in subareas 6-7 and Division 5.b (Celtic Seas, English Channel, and Faroes grounds)	bli.27.5b67	1	2022	2	June	MSY		WGDEEP		x	MSY
Blue ling (Molva dypterygia) in Subareas 1, 2, 8, 9, and 12, and Divisions 3.a and 4.a (other areas)	bli.27.nea	5.3	2023	2	June	PA		WGDEEP			PA
Brill (Scophthalmus rhombus) in subdivisions 22-32 (Baltic Sea)	bll.27.22-32	3.2	2023	3	May	PA/Stock status only		WGBFAS	Annual advice requested together with turbot. We don't currently provide any combined advice.		PA/Stock status only
Brill (Scophthalmus rhombus) in Subarea 4 and divisions 3.a and 7.d-e (North Sea, Skagerrak and Kattegat, English Channel)	bll.27.3a47de	3.2	2021	1	June	PA		WGNSSK	Annual advice requested together with turbot (year of next assessment changed to 2020). We don't currently provide any combined advice. Our advice in the past (2016) has been that a combined TAC for brill and turbot prevents effective control of the single species exploitation rates		PA
Boarfish (Capros aper) in subareas 6-8 (Celtic Seas, English Channel, and Bay of Biscay)	boc.27.6-8	3.2	2021	2	October	PA	UD	WGWIDE			PA
Black scabbardfish (Aphanopus carbo) in subareas 1, 2, 4-8, 10, and 14, and divisions 3.a, 9.a, and 12.b (Northeast Atlantic and Arctic Ocean)	bsf.27.nea	3.2	2022	2	June	PA	UD	WGDEEP		x	MSY
Basking shark (Cetorhinus maximus) in Subareas 1-10, 12 and 14 (Northeast Atlantic and adjacent waters)	bsk.27.nea	6.3	2023	4	October	PA		WGEF			PA
Seabass (Dicentrarchus labrax) in Divisions 4.b-c, 7.a, and 7.d-h (central and southern North Sea, Irish Sea, English Channel, Bristol Channel, and Celtic Sea)	bss.27.4bc7ad-h	1.2	2021	1	June	MSY		WGCSE		x	MSY
Seabass (Dicentrarchus labrax) in divisions 6.a, 7.b, and 7.j (West of Scotland, West of Ireland, eastern part of southwest of Ireland)	bss.27.6a7bj	6.2	2023	3	June	PA	NP	WGCSE	This is a category 6 stock with only landings as input data not suitable for MSY advice	x	PA
Seabass (Dicentrarchus labrax) in divisions 8.a-b (northern and central Bay of Biscay)	bss.27.8ab	1	2021	1	June	MSY/MAP		WGBIE	in 2019 ICES provided advice according to the MAP	x	MSY
Seabass (Dicentrarchus labrax) in divisions 8.c and 9.a (southern Bay of Biscay and Atlantic Iberian waters)	bss.27.8c9a	5.2	2021	2	June	PA	NP	WGBIE		x	PA
Cod (Gadus morhua) in Subareas 1 and 2	cod.27.1-2	1	2022	1	June	MP		AFWG	Basis of advice being discussed		MSY
Cod (Gadus morhua) in Subdivision 21 (Kattegat)	cod.27.21	3.3	2021	1	June	PA		WGBFAS			PA
Cod (Gadus morhua) in subdivisions 22-24, western Baltic stock (western Baltic Sea)	cod.27.22-24	1	2021	1	May	MSY		WGBFAS		x	MSY
Cod (Gadus morhua) in subdivisions 24-32, eastern Baltic stock (eastern Baltic Sea)	cod.27.24-32	1	2021	1	May	PA	UD	WGBFAS		x	MSY
Cod (Gadus morhua) in Subarea 4, Division 7.d, and Subdivision 20 (North Sea, eastern English Channel, Skagerrak)	cod.27.47d20	1	2021	1	June	MSY		WGNSSK		x	MSY
Cod (Gadus morhua) in Division 6.a (West of Scotland)	cod.27.6a	1.2	2022	2	June	MSY		WGCSE			MSY
Cod (Gadus morhua) in Division 6.b (Rockall)	cod.27.6b	6.2	2023	3	June	PA	NP	WGCSE	This is a category 6 stock with only landings as input data not suitable for MSY advice		PA
Cod (Gadus morhua) in Division 7.a (Irish Sea)	cod.27.7a	3.2	2021	1	June	PA	UD	WGCSE		x	PA
Cod (Gadus morhua) in divisions 7.e-k (eastern English Channel and southern Celtic Seas)	cod.27.7e-k	1	2021	1	June	MSY		WGCSE		x	MSY

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Stock Name	Stock key label	Stock category	Year of next assessment	Periodicity (in years)	Month of release	Advice category for 2021; for MSY ranges should be provided where available	MSY advice basis under development (UD)/not possible (NP) for next advice	EG	COMMENT	Target stock according to MAP	Advice category according to legal obligation
Portuguese dogfish (Centroscymnus coelolepis, Centrophorus squamosus) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	cyo.27.nea	6.3	2023	4	October	PA		WGEF			PA
Dab (Limanda limanda) in subdivisions 22-32 (Baltic Sea)	dab.27.22-32	3.2	2023	3	May	PA/Stock status only		WGBFAS			PA/Stock status only
Dab (Limanda limanda) in Subarea 4 and Division 3.a (North Sea, Skagerrak and Kattegat)	dab.27.3a4	3.2	2022	3	June	PA		WGNSSK	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only
Spurdog (Squalus acanthias) in Subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	dgs.27.nea	1.2	2022	2	October	PA	UD	WGEF	Undergoing benchmark 2020-2021		PA
European eel (Anguilla anguilla) throughout its natural range	ele.2737.nea	3.14	2021	1	November	PA		WGEEL			MSY
Flounder (Platichthys flesus) in subdivisions 22 and 23 (Belt Seas and the Sound)	fle.27.2223	3.2	2022	3	May	PA/Stock status only		WGBFAS			PA/Stock status only
Flounder (Platichthys spp.) in subdivisions 24 and 25 (west of Bornholm and southwestern central Baltic)	bwq.27.2425	3.2	2021	1	May	PA/Stock status only		WGBFAS			PA/Stock status only
Flounder (Platichthys spp.) in subdivisions 26 and 28 (east of Gotland and Gulf of Gdansk)	bwq.27.2628	3.2	2021	1	May	PA/Stock status only		WGBFAS			PA/Stock status only
Flounder (Platichthys solemdali) in subdivisions 27 and 29-32 (northern central and northern Baltic Sea)	bwp.27.2729-32	3.2	2021	1	May	PA/Stock status only		WGBFAS			PA/Stock status only
Flounder (Platichthys flesus) in Subarea 4 and Division 3.a (North Sea, Skagerrak and Kattegat)	fle.27.3a4	3.2	2021	2	June	PA		WGNSSK	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only
Tope (Galeorhinus galeus) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	gag.27.nea	5.2	2021	2	October	PA		WGEF			PA
Greater forkbeard (Phycis blennoides) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	gfb.27.nea	3.2	2022	2	June	PA		WGDEEP	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only
Greenland halibut (Reinhardtius hippoglossoides) in subareas 1 and 2	ghl.27.12	1	2023	2	June	PA		AFWG			PA
Greenland halibut (Reinhardtius hippoglossoides) in subareas 5, 6, 12, and 14 (Iceland and Faroes grounds, West of Scotland, North of Azores, East of Greenland)	ghl.27.561214	1	2021	1	June	MSY		NWWG			MSY
Grey gurnard (Eutrigla gurnardus) in Subarea 4 and divisions 7.d and 3.a (North Sea, eastern English Channel, Skagerrak and Kattegat)	gug.27.3a47d	3.2	2021	2	June	PA		WGNSSK	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only
Leafscale gulper shark (Centrophorus squamosus) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	guq.27.nea	6.3	2023	4	October	PA		WGEF			PA
Red gurnard (Chelidonichthys cuculus) in subareas 3-8 (Northeast Atlantic)	gur.27.3-8	6.2	2021	2	October	PA	UD	WGWIDE	Stock is going to be benchmark in 2021		PA
Haddock (Melanogrammus aeglefinus) in Subareas 1 and 2	had.27.1-2	1	2022	1	June	MSY		AFWG			MSY
Haddock (Melanogrammus aeglefinus) in Subarea 4, Division 6.a, and Subdivision 20 (North Sea, West of Scotland, Skagerrak)	had.27.46a20	1	2021	1	June	MSY		WGNSSK		x	MSY
Haddock (Melanogrammus aeglefinus) in Division 6.b (Rockall)	had.27.6b	1	2021	1	June	MSY		WGCSE	Management evaluated as precautionary	x	MSY
Haddock (Melanogrammus aeglefinus) in Division 7.a (Irish Sea)	had.27.7a	1	2021	1	June	MSY		WGCSE		x	MSY
Haddock (Melanogrammus aeglefinus) in Divisions 7.b-k (southern Celtic Seas and English Channel)	had.27.7b-k	1	2021	1	June	MSY		WGCSE		x	MSY
Herring (Clupea harengus) in subareas 1, 2, 5 and divisions 4.a and 14.a, Norwegian spring spawning herring (the Northeast Atlantic and Arctic Ocean)	her.27.1-24a514a	1	2021	1	October	LTMS (Long term management strategy)		WGWIDE			LTMS (Long term management strategy)
Herring (Clupea harengus) in subdivisions 20-24, spring spawners (Skagerrak, Kattegat, and western Baltic)	her.27.20-24	1.2	2021	1	May	MSY		HAWG		x	MSY
Herring (Clupea harengus) in subdivisions 25-29 and 32, excluding the Gulf of Riga (central Baltic Sea)	her.27.25-2932	1	2021	1	May	MSY		WGBFAS		x	MSY
Herring (Clupea harengus) in Subdivision 28.1 (Gulf of Riga)	her.27.28	1	2021	1	May	MSY		WGBFAS		x	MSY
Herring (Clupea harengus) in Subdivisions 30 and 31 (Gulf of Bothnia)	her.27.3031	1	2021	1	May	MSY		WGBFAS	Benchmarked in 2021, now a Cat.1 stock	x	MSY
Herring (Clupea harengus) in Subarea 4 and divisions 3.a and 7.d, autumn spawners (North Sea, Skagerrak and Kattegat, eastern English Channel)	her.27.3a47d	1	2021	1	May	MSY		HAWG			MSY
Herring (Clupea harengus) in divisions 6.a and 7.b-c (West of Scotland, West of Ireland)	her.27.6a7bc	3	2021	1	June	PA		HAWG			MSY
Herring (Clupea harengus) in divisions 7.a South of 52°30'N, 7.g-h, and 7.j-k (Irish Sea, Celtic Sea, and southwest of Ireland)	her.27.irls	1	2021	1	June	MSY		HAWG			MSY
Herring (Clupea harengus) in Division 7.a North of 52°30'N (Irish Sea)	her.27.nirs	1	2021	1	June	MSY		HAWG			MSY
Hake (Merluccius merluccius) 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)	hke.27.3a46-8abd	1	2021	1	June	MSY/MAP		WGBIE		x	MSY

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Stock Name	Stock key label	Stock category	Year of next assessment	Periodicity (in years)	Month of release	Advice category for 2021; for MSY ranges should be provided where available	MSY advice basis under development (UD) /not possible (NP) for next advice	EG	COMMENT	Target stock according to MAP	Advice category according to legal obligation
Hake (Merluccius merluccius) in divisions 8.c and 9.a, Southern stock (Cantabrian Sea and Atlantic Iberian waters)	hke.27.8c9a	3.2	2021	1	June	MSY		WGBLE	This was a category 1 stock in 2019, but a stock and currently unrealistically retrospective pattern in the assessment output led ICES to use a category 3 assessment for this stock in 2020. We are working toward a 2022 benchmark.	x	MSY/MAP
Horse mackerel (Trachurus trachurus) in Subarea 8 and Divisions 2.a, 4.a, 5.a, 6.a, 7.a-c,e-k (the Northeast Atlantic)	hom.27.2a4a5a6a7a-c,e-k		2021	1	October	MSY	UD	WGWIDE			MSY
Horse mackerel (Trachurus trachurus) in divisions 3.a, 4.b-c, and 7.d (Skagerrak and Kattegat, southern and central North Sea, eastern English Channel)	hom.27.3a4bc7d	3.2	2021	2	October	PA		WGWIDE	This is a category 3 stock with a length-based indicator MSY proxy reference point. Based on the trends, ICES can assess the stock indicators relative to MSY criteria. However the basis for advice remains PA.		MSY
Horse mackerel (Trachurus trachurus) in Division 9.a (Atlantic Iberian waters)	hom.27.9a	1	2021	1	June	MSY		WSHMSA	This is a MP proposed by PELAC and evaluated by ICES as precautionary		MSY
Blue jack mackerel (Trachurus picturatus) in Subdivision 10.a.2 (Azores grounds)	jaa.27.10a2	5	2022	2	December	PA		WGHANSA			PA
Four-spot megrim (Lepidorhombus boscii) in divisions 7.b-k, 8.a-b, and 8.d (west and southwest of Ireland, Bay of Biscay)	ldb.27.7b-k8abd	5.3	2021	1	June	PA		WGBIE	Other advice requester ask for PA, changed as agreed in March 2021		Stock status only
Four-spot megrim (Lepidorhombus boscii) in divisions 8.c and 9.a (southern Bay of Biscay and Atlantic Iberian waters East)	ldb.27.8c9a	1	2021	1	June	MSY		WGBIE	further develop F multiplier approach: FMSY point (as currently the case) plus Fupper (new)		MSY/MAP
Lemon sole (Microstomus kitt) in Subareas 4 and divisions 3.a and 7.d (North Sea, Skagerrak and Kattegat, eastern English Channel)	lem.27.3a47d	3.2	2021	1	June	PA		WSNSK	Annual advice requested (year of next assessment changed to 2020)		PA
Megrim (Lepidorhombus spp.) in divisions 4.a and 6.a (northern North Sea, West of Scotland)	meg.27.4a6a	1	2021	1	June	MSY		WGCSE		x	MSY
Megrim (Lepidorhombus spp.) in Division 6.b (Rockall)	meg.27.6b	2	2021	1	October	MSY		WGCSE	Stock to be benchmarked in 2021. It uses the new WKLIFE X method 3.1	x	MSY
Ling (Molva molva) in subareas 1 and 2 (Northeast Arctic)	lin.27.1-2	3.2	2021	1	June	PA		WGDEEP			PA
Ling (Molva molva) in Subareas 6-9, 12, and 14, and Divisions 5.a and 4.a (Northeast Atlantic and Arctic Ocean)	lin.27.5a4a6-91214	3.2	2021	1	June	PA		WGDEEP			PA
Ling (Molva molva) in Division 5.b (Faroe grounds)	lin.27.5b	1	2021	1	June	MSY		WGDEEP	Benchmarked in 2021, now a Cat.1 stock		PA
Mackerel (Scomber scombrus) in subareas 1-8 and 14 and division 9.a (the Northeast Atlantic and adjacent waters)	mac.27.nea	1	2021	1	October	MSY		WGWIDE			MSY
Megrim (Lepidorhombus whiffiagonis) in divisions 7.b-k, 8.a-b, and 8.d (west and southwest of Ireland, Bay of Biscay)	meg.27.7b-k8abd	1	2021	1	June	MSY		WGBIE		x	MSY/MAP
Megrim (Lepidorhombus whiffiagonis) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters)	meg.27.8c9a	1	2021	1	June	MSY		WGBIE	further develop F multiplier approach: FMSY point (as currently the case) plus Fupper (new)	x	MSY/MAP
White anglerfish (Lophius piscatorius) in Subarea 7 and divisions 8.a-b and 8.d (Celtic Sea, west of Ireland)	mon.27.78abd	1	2021	1	June	MSY		WGBIE		x	MSY/MAP
White anglerfish (Lophius piscatorius) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters)	mon.27.8c9a	1	2021	1	June	MSY		WGHMS		x	MSY/MAP
Striped red mullet (Mullus surmuletus) in Subarea 4 and divisions 7.d and 3.a (North Sea, eastern English Channel, Skagerrak and Kattegat)	mur.27.3a47d	3.2	2021	2	June	PA		WGNSSK			PA
Serpe red mullet (Mullus surmuletus) in subareas 6 and 8, and divisions 7.a-c, 7.e-k, and 3.a (North Sea, Bay of Biscay, southern Celtic Seas, and Atlantic Iberian waters)	mur.27.67b-ce-k8a	5.2	2023	3	October	PA	UD	WGWIDE			PA
Norway lobster (Nephrops norvegicus) in Subarea 4, outside the functional units (North Sea)	nep.27.4outFU	5.2	2022	2	June	PA		WGNSSK	MSY advice requested where possible, currently only PA is possible. Can the benchmark be changed to 2 years? This will align this stock with other data limited Nephrops stocks.		MSY/PA
Norway lobster (Nephrops norvegicus) in Division 6.a, outside the functional units (West of Scotland)	nep.27.6aoutFU	5.2	2023	3	October	PA	NP	WGCSE	This is a category 5 stock with only landings as input data not suitable for MSY advice.	x	MSY
Norway lobster (Nephrops norvegicus) in Subarea 7, outside the functional units (Southern Celtic Seas, and west of Ireland)	nep.27.7outFU	5.2	2023	3	October	PA	NP	WGCSE	This is a category 5 stock with only landings as input data not suitable for MSY advice."	x	PA
Norway lobster (Nephrops norvegicus) in Division 4.a, Functional Unit 10 (northern North Sea, Noup)	nep.fu.10	4,14	2022	2	June	PA	NP	WGNSSK	MSY advice requested where possible, only PA advice possible for Cat.4 and Cat.5 stocks	x	MSY/PA
Norway lobster (Nephrops norvegicus) in Division 6.a, Functional Unit 11 (West of Scotland, North Minch)	nep.fu.11	1	2021	1	October	MSY		WGCSE		x	MSY
Norway lobster (Nephrops norvegicus) in Division 6.a, Functional Unit 12 (West of Scotland, the Firth of Clyde, and South of Arran)	nep.fu.12	1	2021	1	October	MSY		WGCSE		x	MSY
Norway lobster (Nephrops norvegicus) in Division 6.a, Functional Unit 13 (West of Scotland, the Firth of Clyde, and South of Arran)	nep.fu.13	1	2021	1	October	MSY		WGCSE		x	MSY
Norway lobster (Nephrops norvegicus) in Division 7.a, Functional Unit 14 (Irish Sea, East)	nep.fu.14	1	2021	1	October	MSY		WGCSE		x	MSY
Norway lobster (Nephrops norvegicus) in Division 7.a, Functional Unit 15 (Irish Sea, West)	nep.fu.15	1	2021	1	October	MSY		WGCSE		x	MSY
Norway lobster (Nephrops norvegicus) in divisions 7.b-c and 7.j-k, Functional Unit 16 (west and southwest of Ireland, Porcupine Bank)	nep.fu.16	1	2021	1	October	MSY		WGCSE		x	MSY
Norway lobster (Nephrops norvegicus) in Division 7.h, Functional Unit 17 (west of Ireland, Aran Grounds)	nep.fu.17	1	2021	1	October	MSY		WGCSE		x	MSY

Stock Name	Stock key label	Stock category	Year of next assessment	Periodicity (in years)	Month of release	Advice category for 2021; for MSY ranges should be provided where available	MSY advice basis under development (UD) /not possible (NP) for next advice	EG	COMMENT	Target stock according to MAP	Advice category according to legal obligation
Norway lobster (Nephrops norvegicus) in divisions 7.a, 7.g, and 7.h, Functional Unit 19 (Irish Sea, Celtic Sea, eastern part of southwest of Ireland)	nep.fu.19	1	2021	1	October	MSY		WGCSE		x	MSY
Norway lobster (Nephrops norvegicus) in divisions 7.g and 7.h, Functional Units 20 and 21 (Celtic Sea)	nep.fu.2021	1	2021	1	October	MSY		WGCSE		x	MSY
Norway lobster (Nephrops norvegicus) in divisions 7.g and 7.h, Functional Unit 22 (Celtic Sea, Bristol Channel)	nep.fu.22	1	2021	1	October	MSY		WGCSE		x	MSY
Norway lobster (Nephrops norvegicus) in divisions 8.a and 8.b, Functional Units 23-24 (northern and central Bay of Biscay)	nep.fu.2324	1	2021	1	October	MSY		WGBIE	No ranges available for this stock. Discard survival rate revised.	x	MSY
Norway lobster (Nephrops norvegicus) in Division 8.c, Functional Unit 25 (southern Bay of Biscay and northern Galicia)	nep.fu.25	2	2022	3	June	MSY		WGBIE	Category 2 stock with MSY based advice after WKNEPBISC 2021		PA
Norway lobster (Nephrops norvegicus) in Division 9.a, Functional Units 26-27 (Atlantic Iberian waters East, western Galicia, and northern Portugal)	nep.fu.2627	2	2022	3	June	MSY		WGBIE	Category 2 stock with MSY based advice after WKNEPBISC 2021	x	MSY
Norway lobster (Nephrops norvegicus) in Division 9.a, Functional Units 28-29 (Atlantic Iberian waters East and southwestern and southern Portugal)	nep.fu.2829	3.2	2021	2	June	PA	NP	WGBIE	WKNephrops 2019 has not produced information that will change the assessment/advice of data-limited Nephrops at this time. As such, the advice will remain "PA" until further developments are made.	x	MSY
Norway lobster (Nephrops norvegicus) in Division 9.a, Functional Unit 30 (Atlantic Iberian waters East and Gulf of Cadiz)	nep.fu.30	4,14	2021	1	October	PA	NP	WGBIE	"NB is a category 3 stock with no MSY proxy reference points. It was benchmarked in 2015 with the intent to establish a category 1 assessment with MSY advice, but further investments in methods, data, and assessments are needed to achieve the goal. WKNephrops 2019 has not produced information that will change the assessment/advice of data-limited Nephrops at this time. As such, the advice will remain "PA" until further developments are made.	x	MSY
Norway lobster (Nephrops norvegicus) in Division 6.c, Functional Unit 31 (southern Bay of Biscay and Cantabrian Sea)	nep.fu.31	2	2022	3	June	MSY		WGBIE	Category 2 stock with MSY based advice after WKNEPBISC 2021		PA
Norway lobster (Nephrops norvegicus) in Division 4.a, Functional Unit 32 (northern North Sea, Norway Deep)	nep.fu.32	4,14	2022	2	June	PA	NP	WGNSSK	ICES may have new information on this assessment/advice after WKNephrops 2019	x	MSY
Norway lobster (Nephrops norvegicus) in Division 4.b, Functional Unit 33 (central North Sea, Fladen Ground)	nep.fu.33	4,14	2022	2	June	PA	NP	WGNSSK	ICES may have new information on this assessment/advice after WKNephrops 2019	x	MSY
Norway lobster (Nephrops norvegicus) in Division 4.b, Functional Unit 34 (central North Sea, Fladen Ground)	nep.fu.34	4,14	2022	2	June	PA	NP	WGNSSK	ICES may have new information on this assessment/advice after WKNephrops 2019	x	MSY
Norway lobster (Nephrops norvegicus) in Division 3.a, Functional units 3 and 4 (Skagerrak and Kattegat)	nep.fu.3-4	1	2021	1	June	MSY		WGNSSK		x	MSY
Norway lobster (Nephrops norvegicus) in Subareas 4.b and 4.c, Functional Unit 5 (central and southern North Sea, Botney Cut-Silver Pit)	nep.fu.5	4,14	2022	2	June	PA	NP	WGNSSK	ICES may have new information on this assessment/advice after WKNephrops 2019	x	MSY
Norway lobster (Nephrops norvegicus) in Division 4.b, Functional Unit 6 (central North Sea, Fem Deeps)	nep.fu.6	1	2021	1	June	MSY		WGNSSK	MSY range advice provided	x	MSY/PA
Norway lobster (Nephrops norvegicus) in Division 4.a, Functional Unit 7 (northern North Sea, Moore Ground)	nep.fu.7	1	2021	1	June	MSY		WGNSSK	MSY range advice provided	x	MSY/PA
Norway lobster (Nephrops norvegicus) in Division 4.b, Functional Unit 8 (central North Sea, Firth of Forth)	nep.fu.8	1	2021	1	June	MSY		WGNSSK	MSY range advice provided	x	MSY/PA
Norway lobster (Nephrops norvegicus) in Division 4.b, Functional Unit 9 (central North Sea, Agnes Pits)	nep.fu.9	1	2021	1	June	MSY		WGNSSK	MSY range advice provided	x	MSY/PA
Norway pout (Trisopterus esmarkii) in Subarea 4 and Division 3.a (North Sea, Skagerrak and Kattegat)	pou.27.3a4	1	2021	1	October	MSY		WGNSSK			MSY
Norway pout (Trisopterus esmarkii) in Division 6.a	pou.27.6a	6.3	2021	3	June	PA		WGCSE	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only
Orange roughy (Hoplostethus atlanticus) in subareas I-IX, 12 and 14 (the Northeast Atlantic and adjacent waters)	ory.27.nea	6.3	2024	4	June	PA	NP	WGDEEP			PA
Sardine (Sardina pilchardus) in Subarea 7 (southern Celtic Seas, English Channel)	pil.27.7	5.9	2021	2	December	PA		WGHANSA	The stock will be benchmarked in 2021. The stock category may move to 3.2 (based on survey trends)		PA
Sardine (Sardina pilchardus) in divisions 8.a-b and 8.d (Bay of Biscay)	pil.27.8abd	1	2021	1	December	MSY		WGHANSA	DCMARE requests to have advice release in September/October and not December. This would mean the sardine advice is released spread over 3 months. Not feasible for the experts to meet 3 times		MSY
Sardine (Sardina pilchardus) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters)	pil.27.8c9a	1	2021	1	December	MSY		WGHANSA	DCMARE requests to have advice release in September/October and not December. This would mean the sardine advice is released spread over 3 months. Not feasible for the experts to meet 3 times		MSY
Plaice (Pleuronectes platessa) in subdivisions 21-23 (Kattegat, Belt Seas, and the Sound)	ple.27.2123	1	2021	1	May	MSY		WGBFAS			PA
Plaice (Pleuronectes platessa) in subdivisions 24-32 (Baltic Sea, excluding the Sound and Belt Seas)	ple.27.2432	3	2021	1	May	PA		WGBIAS			PA

Stock Name	Stock key label	Stock category	Year of next assessment	Periodicity (in years)	Month of release	Advice category for 2021; for MSY ranges should be provided where available	MSY advice basis under development (UD)/not possible (NP) for next advice	EG	COMMENT	Target stock according to MAP	Advice category according to legal obligation
Plaice (Pleuronectes platessa) in Subarea 4 (North Sea) and Subdivision 20 (Skagerrak)	ple.27.420	1	2021	1	June	MSY		WGNSSK		x	MSY
Plaice (Pleuronectes platessa) in Division 7.a (Irish Sea)	ple.27.7a	1	2021	1	June	MSY		WGCSE			PA
Plaice (Pleuronectes platessa) in divisions 7.b-c (West of Ireland)	ple.27.7bc	6.2	2023	3	June	PA	NP	WGCSE	This is a category 5 stock with only landings as input data not suitable for MSY advice		PA
Plaice (Pleuronectes platessa) in Division 7.d (eastern English Channel)	ple.27.7d	1	2021	1	June	MSY		WGNSSK		x	MSY
Plaice (Pleuronectes platessa) in Division 7.e (western English Channel)	ple.27.7e	3.2	2021	1	June	PA	UD	WGCSE	This is a category 3 stock with a FMSY proxy reference points. Based on these proxies, ICES can assess the stock exploitation and status relative to MSY criteria. However, the basis for advice can only be PA	x	MSY
Plaice (Pleuronectes platessa) in divisions 7.f and 7.g (Bristol Channel, Celtic Sea)	ple.27.7fg	3.2	2021	1	June	PA	UD	WGCSE	Stock to be benchmarked in 2022		PA
Plaice (Pleuronectes platessa) in divisions 7.h-k (Celtic Sea South, southwest of Ireland)	ple.27.7h-k	3.2	2021	2	June	MSY		WGCSE	Stock benchmarked in 2021. It uses the new WKLIFE X method 2.1		PA
Plaice (Pleuronectes platessa) in Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters)	ple.27.89a	5.2	2021	2	June	PA		WGBIE			PA
Saithe (Pollachius virens) in Subareas 4, 6 and Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat)	pok.27.3a46	1	2021	1	June	MSY		WGNSSK		x	MSY
Pollack (Pollachius pollachius) in Subarea 4 and Division 3.a (North Sea, Skagerrak and Kattegat)	pol.27.3a4	5.2	2021	3	June	PA		WGNSSK	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only
Pollack (Pollachius pollachius) in subareas 6-7 (Celtic Seas and the English Channel)	pol.27.67	4.12	2021	1	June	PA	NP	WGCSE	This is a category 4 stock only with catch data available. The stock is assessed using the DAC model which is used as a proxy to MSY. However, the basis for advice can only be PA. This stock is being considered for benchmark in 2021.	x	MSY
Pollack (Pollachius pollachius) in Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters)	pol.27.89a	5.2	2021	2	June	PA		WGBIE			PA
Porbeagle (Lamna nasus) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	por.27.nea	6.3	2023	4	October	PA		WGEF			PA
Northern shrimp (Pandalus borealis) in Subareas 1 and 2	pra.27.1-2	1.6	2021	1	November	MSY		NIPAG			MSY
Northern shrimp (Pandalus borealis) in divisions 3.a and 4.a East (Skagerrak and Kattegat and northern North Sea in the Norwegian Deep)	pra.27.3a4a	1	2021	1	March	LTMS (long term management strategy)		NIPAG	Provide standard MSY ranges in catch scenarios, not the MP ranges	x	LTMS (Long term management strategy)
Northern shrimp (Pandalus borealis) in Division 4.a West (northern North Sea, Fladen Ground)	pra.27.4a	6.3	2021	3	November	PA	NP	NIPAG	This is a category 5 stock with only landings as input data not suitable for MSY advice		PA
Rays and skates (Rajidae) (mainly thornback ray (Raja clavata)) in subareas 10 and 12 (Azores grounds and north of Azores)	raj.27.1012	3.2	2021	2	October	PA		WGEF			PA
Rays and skates (Rajidae) in Subarea 4 and in divisions 3.a and 7.d (North Sea, Skagerrak, Kattegat, and eastern English Channel)	raj.27.3a47d	6.9	2021	2	October	PA		WGEF			PA
Rays and skates (Rajidae) in Subarea 6 and divisions 7.a-c and 7.e-h (Rockall and West of Scotland, southern Celtic Seas, western English Channel)	raj.27.67a-ce-h	6.9	2022	2	October	PA		WGEF			PA
Rays and skates (Rajidae) in Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters)	raj.27.89a	5.9	2022	2	October	PA		WGEF			PA
Beaked redfish (Sebastes mentella) in ICES subareas 1 and 2	reb.27.1-2	1	2022	2	June	PA		AFWG			PA
Beaked redfish (Sebastes mentella) in ICES subareas 5, 12, and 14 (Iceland and Faroe grounds, North of Azores, East of Greenland) and NAFO subareas 1 and 2 (deep pelagic stock > 500 m)	reb.2127.dp	2.13	2022	4	September	MSY		NWWG	A new redfish survey is planned for June/July 2021 - it could be worthwhile considering postponing advice till these data are available		MSY
Beaked redfish (Sebastes mentella) in ICES subareas 5, 12, and 14 (Iceland and Faroe grounds, North of Azores, East of Greenland) and NAFO subareas 1 and 2 (shallow pelagic stock < 500 m)	reb.2127.sp	3.14	2022	4	September	PA		NWWG	A new redfish survey is planned for June/July 2021 - it could be worthwhile considering postponing advice till these data are available		PA
Beaked redfish (Sebastes mentella) in Division 14.b, demersal (Southeast Greenland)	reb.27.14b	3.2	2021	1	June	PA		NWWG			PA
Beaked redfish (Sebastes mentella) in Subarea 14 and Division 5.a, Icelandic slope stock (East of Greenland, Iceland grounds)	reb.27.5a14	3.2	2021	1	June	PA		NWWG			PA
Golden redfish (Sebastes norvegicus) in subareas 5, 6, 12, and 14 (Iceland and Faroes grounds, West of Scotland, North of Azores, East of Greenland)	reg.27.561214	1	2021	1	June	MP		NWWG			MP
Roughhead grenadier (Macrourus berglax) in subareas 5-8, 10, 12 and 14 (Northeast Atlantic and Arctic Ocean)	rng.27.nea	6.3	2025	5	June	PA	NP	WGDEEP	There is very limited data available for this species, and some of the reported landings data are considered to be species misreporting.		PA
White skate (Rostroraja alba) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	rja.27.nea	6.3	2023	4	October	PA		WGEF			PA
Common skate complex (Blue skate (Dipturus batis) and flapper skate (Dipturus intermedius) in Subarea 4 and Division 3.a (North Sea, Skagerrak and Kattegat)	rjb.27.3a4	6.3	2023	4	October	PA		WGEF	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only

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Stock Name	Stock key label	Stock category	Year of next assessment	Periodicity (in years)	Month of release	Advice category for 2021; for MSY ranges should be provided where available	MSY advice basis under development (UD)/not possible (NP) for next advice	EG	COMMENT	Target stock according to MAP	Advice category according to legal obligation
Common skate complex (Blue skate (Dipturus batis) and flapper skate (Dipturus intermedius) in Subarea 6 and divisions 7.a-c and 7.e-k (Celtic Seas and western English Channel)	rjb.27.67a-ce-k	6.3	2022	2	October	PA		WGEF	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only
Common skate complex (Blue skate (Dipturus batis) and flapper skate (Dipturus intermedius) in Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters)	rjb.27.89a	6.3	2022	2	October	PA/Stock status only		WGEF			PA/Stock status only
Thornback ray (Raja clavata) in Subarea 4 and in divisions 3.a and 7.d (North Sea, Skagerrak, Kattegat, and eastern English Channel)	rjc.27.3a47d	3.2	2021	2	October	PA		WGEF			PA
Thornback ray (Raja clavata) in Subarea 6 (West of Scotland)	rjc.27.6	3.2	2022	2	October	PA		WGEF			PA
Thornback ray (Raja clavata) in divisions 7.a and 7.f-g (Irish Sea, Bristol Channel, Celtic Sea North)	rjc.27.7afg	3.2	2022	2	October	PA		WGEF			PA
Thornback ray (Raja clavata) in Division 7.e (western English Channel)	rjc.27.7e	5.2	2022	2	October	PA		WGEF			PA
Thornback ray (Raja clavata) in Subarea 8 (Bay of Biscay)	rjc.27.8	3.2	2022	2	October	PA		WGEF			PA
Thornback ray (Raja clavata) in Division 9.a (Atlantic Iberian waters)	rjc.27.9a	3.2	2022	2	October	PA		WGEF			PA
Small-eyed ray (Raja microocellata) in divisions 7.d and 7.e (English Channel)	rje.27.7de	5.2	2021	2	October	PA		WGEF			PA
Small-eyed ray (Raja microocellata) in divisions 7.f and 7.g (Bristol Channel, Celtic Sea North)	rje.27.7fg	3.2	2022	2	October	PA		WGEF			PA
Shagreen ray (Leucoraja fullonica) in subareas 6-7 (West of Scotland, southern Celtic Seas, English Channel)	rjf.27.67	5.2	2022	2	October	PA		WGEF			PA
Blonde ray (Raja brachyura) in Subarea 6 and Division 4.a (North Sea and West of Scotland)	rjh.27.4a6	5.2	2021	2	October	PA		WGEF			PA
Blonde ray (Raja brachyura) in divisions 4.c and 7.d (southern North Sea and eastern English Channel)	rjh.27.4c7d	3.2	2021	2	October	PA		WGEF			PA
Blonde ray (Raja brachyura) in divisions 7.a and 7.f-g (Irish Sea, Bristol Channel, Celtic Sea North)	rjh.27.7afg	5.2	2022	2	October	PA		WGEF			PA
Blonde ray (Raja brachyura) in Division 7.e (western English Channel)	rjh.27.7e	5.2	2022	2	October	PA		WGEF			PA
Blonde ray (Raja brachyura) in Division 9.a (Atlantic Iberian waters)	rjh.27.9a	3.2	2022	2	October	PA		WGEF			PA
Sandy ray (Leucoraja circularis) in subareas 6-7 (West of Scotland, southern Celtic Seas, English Channel)	rji.27.67	5.2	2022	2	October	PA		WGEF			PA
Spotted ray (Raja montagui) in Subarea 4 and Divisions 3.a and 7.d (North Sea, Skagerrak, Kattegat, and eastern English Channel)	rjm.27.3a47d	3.2	2021	2	October	PA		WGEF			PA
Spotted ray (Raja montagui) in Subarea 6 and divisions 7.b and 7.j (West of Scotland, west and southwest of Ireland)	rjm.27.67bj	3.2	2022	2	October	PA		WGEF			PA
Spotted ray (Raja montagui) in divisions 7.a and 7.e-h (southern Celtic Seas and western English Channel)	rjm.27.7ae-h	3.2	2022	2	October	PA		WGEF			PA
Spotted ray (Raja montagui) in Subarea 8 (Bay of Biscay)	rjm.27.8	3.2	2022	2	October	PA		WGEF			PA
Spotted ray (Raja montagui) in Division 9.a (Atlantic Iberian waters)	rjm.27.9a	5	2022	2	October	PA		WGEF			PA
Cuckoo ray (Leucoraja naevus) in Subarea 4 and Division 3.a (North Sea, Skagerrak and Kattegat)	rjn.27.3a4	3.2	2021	2	October	PA		WGEF			PA
Cuckoo ray (Leucoraja naevus) in subareas 6-7 and divisions 8.a-b and 8.d (West of Scotland, southern Celtic Seas, and western English Channel, Bay of Biscay)	rjn.27.678abd	3.2	2022	2	October	PA		WGEF			PA
Cuckoo ray (Leucoraja naevus) in Division 8.c (Cantabrian Sea)	rjn.27.8c	3.2	2022	2	October	PA		WGEF			PA
Cuckoo ray (Leucoraja naevus) in Division 9.a (Atlantic Iberian waters)	rjn.27.9a	3.2	2022	2	October	PA		WGEF			PA
Starry ray (Amblyraja radiata) in Subareas 2 and 4, and Division 3.a (Norwegian Sea, North Sea, Skagerrak and Kattegat)	rjr.27.23a4	3.14	2023	4	October	PA		WGEF			PA
Undulate ray (Raja undulata) in divisions 7.b and 7.j (west and southwest of Ireland)	rju.27.7bj	6.3	2022	2	October	PA		WGEF			PA
Undulate ray (Raja undulata) in divisions 7.d and 7.e (English Channel)	rju.27.7de	3.2	2022	2	October	PA		WGEF			PA
Undulate ray (Raja undulata) in divisions 8.a-b (northern and central Bay of Biscay)	rju.27.8ab	6	2022	2	October	PA		WGEF			PA
Undulate ray (Raja undulata) in Division 8.c (Cantabrian Sea)	rju.27.8c	6.9	2022	2	October	PA		WGEF			PA
Undulate ray (Raja undulata) in Division 9.a (Atlantic Iberian waters)	rju.27.9a	6.9	2022	2	October	PA		WGEF			PA
Roundnose grenadier (Coryphaenoides rupestris) in subareas 1, 2, 4, 8, and 9, Division 14.a, and in subdivisions 14.b.2 and 5.a.2 (Northeast Atlantic and Arctic Ocean)	rng.27.1245a8914ab	5.2	2023	4	June	PA	NP	WGDEEP		x	PA
Roundnose grenadier (Coryphaenoides rupestris) in Division 3.a (Skagerrak and Kattegat)	rng.27.3a	3.2	2022	2	June	PA		WGDEEP			PA
Roundnose grenadier (Coryphaenoides rupestris) in Divisions 10.b and 12.c, and Subdivisions 12.a.1, 14.b.1, and 5.a.1 (Oceanic Northeast Atlantic and northern Reykjanes Ridge)	rng.27.5a10b12ac14b	5.2	2023	4	June	PA		WGDEEP			PA
Roundnose grenadier (Coryphaenoides rupestris) in subareas 6-7 and divisions 5.b and 12.b (Celtic Seas and the English Channel, Faroes grounds, and western Hatton Bank)	rng.27.5b6712b	5.2	2022	2	June	MSY		WGDEEP			MSY
Salmon (Salmo salar) in subdivisions 22-31 (Baltic Sea, excluding the Gulf of Finland)	sal.27.22-31	1	2021	1	May	MSY		WGBAST	A new multiannual plan is being considered. Stock have MSY based advice		MSY
Salmon (Salmo salar) in Subdivision 32 (Gulf of Finland)	sal.27.32	3	2021	1	May	MSY		WGBAST	This stock has MSY based advice		MSY

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Stock Name	Stock key label	Stock category	Year of next assessment	Periodicity (in years)	Month of release	Advice category for 2021; for MSY ranges should be provided where available	MSY advice basis under development (UD)/not possible (NP) for next advice	EG	COMMENT	Target stock according to MAP	Advice category according to legal obligation
Salmon (Salmo salar) in Northeast Atlantic and Arctic Ocean	sal.27.nea	1	2021	1	May	MSY/PA		WGNAS	MSY/PA as requested by NASCO. ICES advises that when the Framework of Indicators (FWI) was applied in early 2020, a full reassessment was not required and the 2018 ICES advice remains valid: "when the MSY approach is applied there are no mixed-stock fisheries options on the NEAC complexes at the Faroes for the fishing		MSY/PA
Sandeel (Ammodytes spp.) in Division 6.a (West of Scotland)	san.27.6a	6.3	2022	2	February	PA		HAWG	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only
Sandeel (Ammodytes spp.) in Divisions 4.b and 4.c, Sandeel Area 1r (central and southern North Sea, Dogger Bank)	san.sa.1r	1	2021	1	February	MSY		HAWG			MSY
Sandeel (Ammodytes spp.) in Divisions 4.b and 4.c, and Subdivision 20, Sandeel Area 2r (Skagerrak, central and southern North Sea)	san.sa.2r	1.2	2021	1	February	MSY		HAWG			MSY
Sandeel (Ammodytes spp.) in Divisions 4.a and 4.b, and Subdivision 20, Sandeel Area 3r (Skagerrak, northern and central North Sea)	san.sa.3r	1	2021	1	February	MSY		HAWG			MSY
Sandeel (Ammodytes spp.) in divisions 4.a and 4.b, Sandeel Area 4 (northern and central North Sea)	san.sa.4	1	2021	1	February	MSY		HAWG			MSY
Sandeel (Ammodytes spp.) in Division 4.a, Sandeel Area 5r (northern North Sea, Viking and Bergen banks)	san.sa.5r	5.3	2021	2	February	PA		HAWG			PA
Sandeel (Ammodytes spp.) in subdivisions 20-22, Sandeel Area 6 (Kattegat)	san.sa.6	5.2	2021	2	February	PA		HAWG			PA
Sandeel (Ammodytes spp.) in Division 4.a, Sandeel Area 7r (northern North Sea, Shetland)	san.sa.7r	5.3	2021	2	February	PA		HAWG			PA
Blackspot seabream (Pagellus bogaraveo) in Subarea 10 (Azores grounds)	sbr.27.10	3.2	2021	1	June	PA		WGDEEP			MSY
Blackspot seabream (Pagellus bogaraveo) in subareas 6-8 (Celtic Seas, the English Channel, and Bay of Biscay)	sbr.27.6-8	6.3	2022	2	June	PA		WGDEEP			PA
Blackspot seabream (Pagellus bogaraveo) in Subarea 9 (Atlantic Iberian waters)	sbr.27.9	3.2	2022	2	June	PA	NP	WGDEEP	Both GFCM and ICES seem to have assessments and give advice for a common stock.	x	MSY
Kitefin shark (Dalatias licha) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	sck.27.nea	6.3	2023	4	October	PA		WGEF			PA
Smooth-hound (Mustelus spp.) in subareas 1-10, 12 and 14 (the Northeast Atlantic and adjacent waters)	sdv.27.nea	3.2	2021	2	October	PA		WGEF			PA
Black-mouth dogfish (Galeus melastomus) in subareas 6 and 7 (West of Scotland, southern Celtic Seas, and English Channel)	sho.27.67	3.9	2021	2	October	PA		WGEF	Other advice requester ask for PA, changed as agreed in March 2021		PA/Stock status only
Black-mouth dogfish (Galeus melastomus) in Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters)	sho.27.89a	3.9	2021	2	October	PA/Stock status only		WGEF			PA/Stock status only
Sole (Solea solea) in subdivisions 20-24 (Skagerrak and Kattegat, western Baltic Sea)	sol.27.20-24	1	2021	1	June	MSY		WGBFAS		x	MSY
Sole (Solea solea) in Subarea 4 (North Sea)	sol.27.4	1	2021	1	June	MSY		WGNSSK		x	MSY
Sole (Solea solea) in Division 7.a (Irish Sea)	sol.27.7a	1	2021	1	June	MSY		WGCSE			MSY
Sole (Solea solea) in divisions 7.b and 7.c (West of Ireland)	sol.27.7bc	6.2	2023	3	June	PA	NP	WGCSE	This is a category 6 stock with only landings as input data not suitable for MSY advice		PA
Sole (Solea solea) in Division 7.d (eastern English Channel)	sol.27.7d	1	2021	1	June	MSY		WGNSSK	Moved to category 1 after the benchmark	x	MSY
Sole (Solea solea) in Division 7.e (western English Channel)	sol.27.7e	1	2021	1	June	MSY		WGCSE		x	MSY
Sole (Solea solea) in divisions 7.f and 7.g (Bristol Channel, Celtic Sea)	sol.27.7fg	1	2021	1	June	MSY		WGCSE		x	MSY
Sole (Solea solea) in Divisions 7.h-k (Celtic Sea South, southwest of Ireland)	sol.27.7h-k	5	2021	1	June	PA	UD	WGCSE	This stock was downgraded to is a category 5 stock in 2020. ICES advice for this stock can only be PA	x	MSY
Sole (Solea solea) in divisions 8.a-b (northern and central Bay of Biscay)	sol.27.8ab	1	2021	1	June	MSY/MAP		WGBIE		x	MSY/MAP
Sole (Solea solea) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters)	sol.27.8c9a	3	2021	2	June	MSY		WGBIE	Category 3 stock with MSY based advice after benchmark 2021	x	MSY
Sprat (Sprattus sprattus) in Subdivisions 22-32 (Baltic Sea)	spr.27.22-32	1	2021	1	May	MSY		WGBFAS		x	MSY
Sprat (Sprattus sprattus) in Division 3.a and Subarea 4 (Skagerrak, Kattegat and North Sea)	spr.27.3a4	1	2021	1	April	MSY		HAWG			MSY
Sprat (Sprattus sprattus) in Subarea 6 and Divisions 7.a-c and 7.f-k (West of Scotland, southern Celtic Seas)	spr.27.67a-cf-k	5.2	2021	2	June	PA		HAWG			PA
Sprat (Sprattus sprattus) in divisions 7.d and 7.e (English Channel)	spr.27.7de	3.2	2021	1	June	PA		HAWG	As a category 3 stock only PA advice is possible – no reference points currently		MSY
Lesser-spotted dogfish (Scyliorhinus canicula) in Subarea 4 and Divisions 3.a and 7.d (North Sea, Skagerrak and Kattegat, eastern English Channel)	syc.27.3a47d	3.5	2021	2	October	PA		WGEF			PA
Lesser-spotted dogfish (Scyliorhinus canicula) in Subarea 6 and divisions 7.a-c and 7.e-j (West of Scotland, Irish Sea, southern Celtic Seas)	syc.27.67a-ce-j	3.5	2021	2	October	PA		WGEF			PA
Lesser-spotted dogfish (Scyliorhinus canicula) in divisions 8.a-b and 8.d (Bay of Biscay)	syc.278abd	3.5	2021	2	October	PA/Stock status only		WGEF			PA/Stock status only
Lesser-spotted dogfish (Scyliorhinus canicula) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters)	syc.27.8c9a	3.9	2021	2	October	PA/Stock status only		WGEF			PA/Stock status only

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Stock Name	Stock key label	Stock category	Year of next assessment	Periodicity (in years)	Month of release	Advice category for 2021; for MSY ranges should be provided where available	MSY advice basis under development (UD)/not possible (NP) for next advice	EG	COMMENT	Target stock according to MAP	Advice category according to legal obligation
Greater-spotted dogfish (Scyliorhinus stellaris) in subareas 6 and 7 (West of Scotland, southern Celtic Seas, and the English Channel)	syt.27.67	3.9	2021	2	October	PA		WGEF			PA
Thresher sharks (Alopias spp.) in Subareas 10, 12, Divisions 7.c-k, 8.d-e, and Subdivisions 5.b.1, 9.b.1, 14.b.1 (Northeast Atlantic)	thr.27.nea	6.3	2023	4	October	PA		WGEF			PA
Sea trout (Salmo trutta) in subdivisions 22-32 (Baltic Sea)	trs.27.22-32	3	2021	2	May	PA		WGBAST			PA
Roughsnout grenadier (Trachyrincus scabrus) in subareas 1-2, 4-8, 10, 12, 14 and Division 3a (Northeast Atlantic and Arctic Ocean)	tsu.27.nea	6.3	2025	5	June	PA		WGDEEP	Few data are available for this species, and the reported landings data are considered to be species misreporting and misidentification. As the stock of Roughsnout grenadier (Trachyrincus scabrus) (TSU) in the Northeast Atlantic (is considered to include catches of T. scabrus and T. murrayi). All three species are non-commercial and are not likely to become of commercial interest in the foreseeable future, it is recommended that these species are no longer considered by ICES in terms of stock assessment. Occasional catch of large individuals may only result in minor landings. Significant reported landings of these species should be considered misreporting of other species, most probably of the roundnose grenadier. There is no data to assess these species, they have minor (if any) commercial interest and are not of conservation concern, thus provision of catch advice could be reconsidered in terms of added value?		PA
Turbot (Scophthalmus maximus) in Subdivisions 22-32 (Baltic Sea)	tur.27.22-32	3.2	2021	3	May	PA/Stock status only		WGBFAS	Shall it be every 3 years as for brill and dab? Yes,		PA/Stock status only
Turbot (Scophthalmus maximus) in Division 3.a (Skagerrak and Kattegat)	tur.27.3a	3.2	2021	1	June	MSY		WGNSSK	Annual advice combined with brill; year of next assessment changed to 2020. We don't currently provide any combined advice. Our advice in the past (2016) has been that a combined TAC for brill and turbot prevents effective control of the single species exploitation rates		PA/Stock status only
Turbot (Scophthalmus maximus) in Subarea 4 (North Sea)	tur.27.4	1	2021	1	June	MSY		WGNSSK	Annual advice combined with brill. We don't currently provide any combined advice. Our advice in the past (2016) has been that a combined TAC for brill and turbot prevents effective control of the single species exploitation rates		PA
Tusk (Brosme brosme) in subareas 1 and 2 (Northeast Arctic)	usk.27.1-2	3.2	2021	2	June	PA		WGDEEP			PA
Tusk (Brosme brosme) in Subarea 12, excluding Division 12.b (southern Mid-Atlantic Ridge)	usk.27.12ac	6.3	2024	5	June	PA		WGDEEP			PA
Tusk (Brosme brosme) in subareas 4 and 7-9 and divisions 3.a, 5.b, 6.a, and 12.b (Northeast Atlantic)	usk.27.3a45b6a7-912b	3.2	2021	2	June	PA		WGDEEP			PA
Tusk (Brosme brosme) in Division 6.b (Rockall)	usk.27.6b	5.2	2022	2	June	PA		WGDEEP			PA
Blue whiting (Micromesistius poutassou) in subareas 1-9, 12, and 14 (Northeast Atlantic and adjacent waters)	whb.27.1-91214	1	2021	1	October	LTMS (Long term management strategy)		WGWIDE			LTMS (Long term management strategy)
Whiting (Merlangius merlangus) in Division 3.a (Skagerrak and Kattegat)	whg.27.3a	3	2022	2	June	PA/Stock status only		WGNSSK	This was upgraded to a cat 3 stock in 2020		PA/Stock status only
Whiting (Merlangius merlangus) in Subarea 4 and Division 7.d (North Sea and eastern English Channel)	whg.27.47d	1	2021	1	June	MSY		WGNSSK		x	MSY
Whiting (Merlangius merlangus) in Division 6.a (West of Scotland)	whg.27.6a	1	2021	2	June	MSY		WGCSE	This stock was benchmarked in 2021. Due to the change in stock category (now category 1) new advice will be given despite current is still valid		PA
Whiting (Merlangius merlangus) in Division 6.b (Rockall)	whg.27.6b	6.2	2021	3	June	PA	NP	WGCSE	This is a category 6 stock with only landings as input data not suitable for MSY		PA
Whiting (Merlangius merlangus) in Division 7.a (Irish Sea)	whg.27.7a	1	2021	2	June	MSY		WGCSE	This is a category 1 analytical assessment and ICES advice basis is MSY		PA
Whiting (Merlangius merlangus) in divisions 7.b-c and 7.e-k (southern Celtic Seas and eastern English Channel)	whg.27.7b-ce-k	1	2021	1	June	MSY		WGCSE		x	MSY
Whiting (Merlangius merlangus) in Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters)	whg.27.89a	5.2	2021	2	June	PA	NP	WGBIE	This is a category 5 stock with a FMSY proxy reference point. Stock ID issues, a lack of stock size data and an accepted analytic assessment limit this stock's ability for MSY advice at this time.	x	MSY

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Stock Name	Stock key label	Stock category	Year of next assessment	Periodicity (in years)	Month of release	Advice category for 2021; for HCV ranges should be provided where available	MSY advice basis under development (UD)/not possible (NP) for next advice	EG	COMMENT	Target stock according to MAP	Advice category according to legal obligation
Witch (Glyptocephalus cynoglossus) in Subarea 4 and divisions 3.a and 7.d (North Sea, Skagerrak and Kattegat, eastern English Channel)	wit.27.3a47d	1	2021	3	June	MSY		WGNSSK			PA
Greater silver smelt (Argentina silus) in subareas 7-10 and 12, and Division 5.a (not in area)	aru.27.5b7-1012	3.2	2021	2	June	PA		WGDEEP			PA
Sathe in subarea 7-10	tbd			3					New stock		0

Annex II b) Species and management areas for which information on fishing opportunities consistent with the stock advice are requested.

Species	Management area
cod	Subdivisions 22-24
cod	Subdivisions 25-32
herring	Subdivisions 22-24;
	50% of the advised fishing possibility for herring Division IIIa and Subdivisions 22-24
	should be allocated to Subdivisions 22-24.
herring	Division IIIa;
	50% of the advised fishing possibility for herring Division IIIa and Subdivisions 22-24
	should be allocated to Subarea IV and Division IIIa.
herring	Subdivisions 30-31
herring	Subdivisions 25-29 (excluding Gulf of Riga) and 32
herring	Subdivision 28.1 (Gulf of Riga)
plaice	Subdivision 21
plaice	Subdivisions 22-32

ICES Advice
Published 25 February 2021
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1.1.1 Advice on fishing opportunities

ICES approach to advice on fishing opportunities

ICES approach to advice on fishing opportunities integrates the precautionary approach with the objective of achieving maximum sustainable yield (MSY), unless otherwise requested. The aim is, in accordance with the aggregate of international guidelines, to inform policies for high, long-term yields while maintaining productive fish stocks in marine ecosystems that meet expected environmental standards (e.g. good environmental status [GES] in the EU).

Annex 2 of the UN Fish Stocks Agreement (UN, 1995) contains guidelines for applying a precautionary approach within an MSY framework. In accordance with a precautionary approach, populations need to be maintained within safe biological limits to make MSY possible. Within safe biological limits, however, an MSY approach is necessary to maximize long-term yields. All ICES advice is consistent with the precautionary approach, which is a necessary but not a sufficient condition for MSY.

MSY is a broad conceptual objective aimed at achieving the highest yield over the long term. It is non-specific with respect to: (a) the biological unit to which it is applied; (b) the models used to provide scientific advice; (c) the definition of yields; and (d) the management methods used to achieve MSY. ICES interpretation of MSY is maximizing the average long-term yield from a given fish stock while maintaining the stock as productive. ICES considers the yield to be maximized as the part of the catch that is landed, measured in weight. Depending on regulations for the individual stock, this may be calculated relative to the landed catch above a prescribed minimum size.

Many of the models (mathematical and conceptual) used to estimate MSY and associated parameters typically assume that factors not explicitly included in the models either remain constant or vary around a historical long-term mean. Marine ecosystems are dynamic, however, and fish stocks will change not only in response to fishing patterns and fishing pressures but also to changes in their prey or their predators as well as to changes in the climate. ICES therefore considers MSY reference points to be valid only in the short and medium term (generally up to 5–10 years). MSY reference points should be subject to regular reviews and modified according to new information or process understanding.

To support the stock-by-stock management system, ICES provides advice on fishing opportunities and stock status for individual stocks. For some stocks ICES is only requested to advise on its status and not on fishing opportunities. In addition to the single-stock advice, ICES also provides mixed-fisheries considerations, fisheries overviews, and ecosystem overviews. These encapsulate the technical and biological interactions between stocks at an ecoregion scale.

For the purposes of identifying the advice rule to be applied when giving advice on fishing opportunities, ICES classifies stocks into six main categories on the basis of available knowledge:

Category 1 – *Stocks with quantitative assessments.* Includes stocks with full analytical assessments and forecasts that are either age-/length-structured or based on production models.

Category 2 – *Stocks with analytical assessments and forecasts that are only treated qualitatively.* Includes stocks with quantitative assessments and forecasts which, for a variety of reasons, are considered indicative of trends in fishing mortality, recruitment, and biomass.

Category 3 – *Stocks for which survey-based assessments or exploratory assessments indicate trends.* Includes stocks for which survey, trends-based assessment, or other indices are available that provide reliable indications of trends in stock metrics such as total mortality, recruitment, and biomass.

Category 4 – *Nephrops stocks where information on possible abundance can be inferred* and stocks for which a reliable time-series of catch can be used to approximate MSY. This is where there are reasonable scientific grounds to use life-history and density information from functional units to provide advice.

Category 5 – *Stocks for which either only data on landings or a short time-series of catch are available.*

Category 6 *–Stocks for which there are negligible landings and stocks caught in minor amounts as bycatch.* Includes stocks where landings are negligible in comparison to discards as well as stocks that are primarily caught as bycatch species in other targeted fisheries.

For category 1 and 2 stocks, ICES provides advice when requested in accordance with agreed management plans or strategies evaluated to be consistent with the precautionary approach (Figure 1). If such plans or strategies are not agreed upon by the relevant management bodies (as indicated by a registered disagreement in advance from a relevant management body, to the use of the plan as the basis of advice)* or have been evaluated by ICES as not being precautionary, ICES will give advice on the basis of ICES MSY approach.

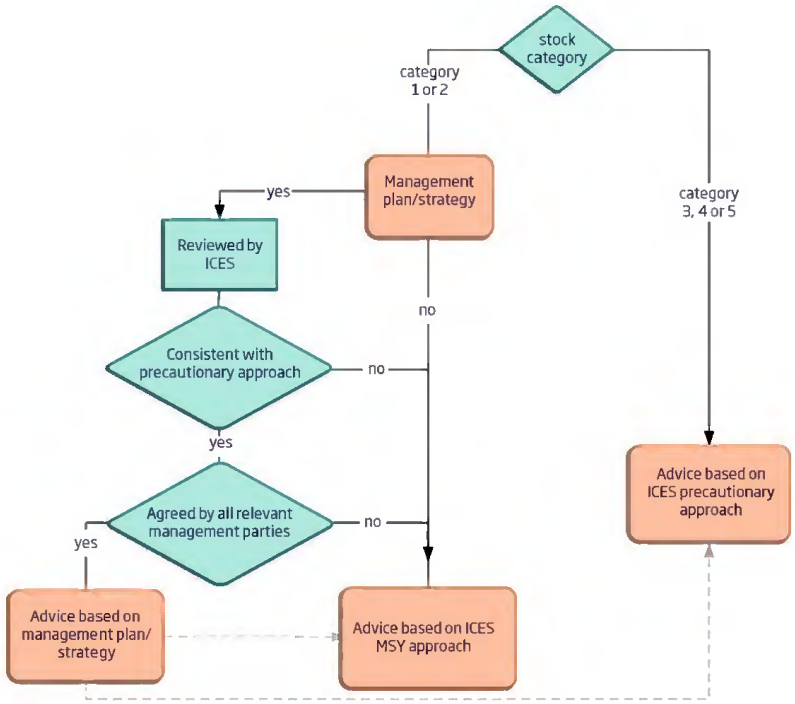


Figure 1 Flow diagram showing the basis of ICES advice. The broken grey lines indicate that sometimes the advice in management plans is consistent with ICES MSY approach or the precautionary approach.

As the knowledge available is insufficient to apply ICES MSY approach to category 3–6 stocks, the advice is based on the precautionary approach. ICES has, however, developed approaches to determine proxies for MSY reference points for some stocks in categories 3 and 4. Based on these proxies, ICES will assess both the state and exploitation of the stocks relative to MSY criteria.

Most of the fish and shellfish fisheries advised on by ICES are managed by total allowable catches (TACs) and are increasingly subject to discard bans or landing obligation (LO) regulations. Different regulations are in place within the ICES area, and different regulations may relate to different management areas. For EU waters, an LO was introduced in 2015 and was fully in place by 2020. Following the introduction of the LO, catches may be split into three categories: reported landings at or above minimum conservation reference size (MCRS), reported landings below MCRS, and discards. Discards may also be split into dead discards and live discards, based on information on survival rates. ICES discard estimates are normally based on data from observer schemes and may include discards which, in accordance with the landing

* Version 2: Text inserted – (as indicated by a registered disagreement in advance from a relevant management body, to use of the plan as the basis of advice).

obligations/discard bans, should be landed. Estimates of discarding not observed are often imputed based on observations from similar métiers, seasons, or areas.

Generally, ICES assumes that the current fishing pattern and discarding practices are likely to remain unchanged over the forecast period. ICES may split the advised catch and other catch scenarios into the three categories above (or four categories if a fraction of discards is assumed to survive).

If the fishing pattern or/and ratio between landings and discards change(s) in the forecast period, due to changes in compliance with the landing obligation or discard ban, ICES will not distinguish between landings below MCRS/catching size and discards in the catch scenarios. Those two components will instead be combined into one category: projected discards. Landings above MCRS/catching size may, in these cases, be termed 'projected landings' as illustrated in Figure 2.

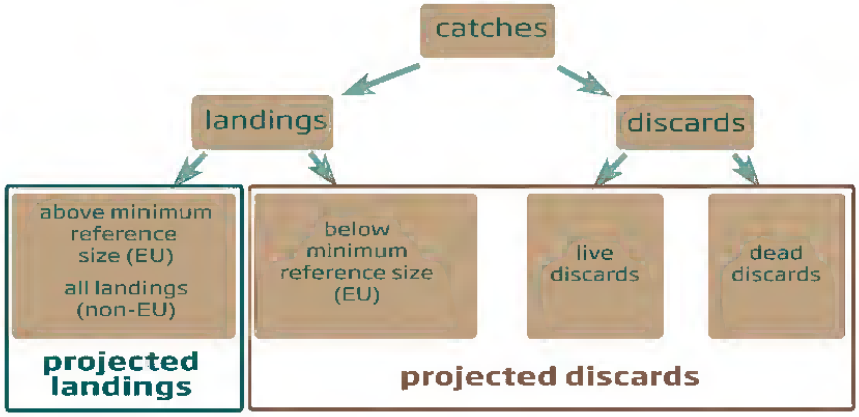


Figure 2 Catch categories used by ICES in stock assessments and forecasts. For an explanation of these categories, see the text above.

General approach

Fisheries directly affect fish stocks through catches. Fishing mortality (F) is a measure of fishing pressure; it is the rate derived from the proportion in numbers of fish in a year class taken by fisheries during one year. The fishing mortality referred to in ICES advice is estimated as the average F over those ages which dominate in the catches. For some stocks, such as Icelandic cod, saithe, and most *Nephrops* stocks, ICES uses harvest rates (HRs) instead of fishing mortality. The harvest rate is defined as the fraction of a reference biomass or abundance that is caught by the fishery during a year.

The production in a fish stock can be highly variable. It is related to recruitment, stock size (often expressed as spawning-stock biomass [SSB]), and the size structure in the stock; these in turn also depend on the fishing mortality and fishing patterns.

Surplus production of a stock is the catch that can be harvested without changing the average production in the long term. For a given fishing pattern there is a level of fishing mortality that, in the long term, will generate the highest surplus production. This peak of surplus production (above minimum conservation/reference size) is the MSY, and the fishing mortality generating this peak is F_{MSY}.

Fishing mortality is the only variable that can be directly controlled by fisheries management. Fisheries management cannot directly control the stock size only influence it through overall fishing mortality. Stock size is also subject to natural variability that on a year-to-year basis can exceed the influence of fishing. MSY refers to a long-term average. A management strategy that harvests variable yields in response to the natural variability in stock size will, on average, give yields closer to the long-term MSY than a strategy operating with the maximum constant yield that could be taken sustainably.

Due to the variability in stock size, there may be situations where the spawning stock is so low that reproduction is at significant risk of being impaired. A precautionary approach implies that fisheries management in such situations should be more cautious. For stocks where quantitative information is available, the reference point B_{lim} may be identified as the stock size below which there is a high risk of reduced recruitment (Figure 3). A precautionary safety margin incorporating the uncertainty in ICES stock estimates leads to the precautionary reference point B_{pa}, which is a biomass reference point designed to have a low probability of being below B_{lim}. When the spawning-stock size is estimated to be above B_{pa}, the probability of impaired recruitment is expected to be low.

For short-lived species, for which recruitment is highly variable, the biomass can fluctuate widely between years. A precautionary approach in this situation implies that a minimum stock size, $B_{escapement}$, should remain in the sea every year after fishing to ensure future recruitment.

F_{lim} is the fishing mortality which in the long term will result in an average stock size at B_{lim}. Fishing at levels above F_{lim} will result in a decline in the stock to levels below B_{lim}. ICES also defines F_{pa}, which is the fishing mortality that results in no more than 5% probability of bringing the spawning stock to below B_{lim} in the long term.

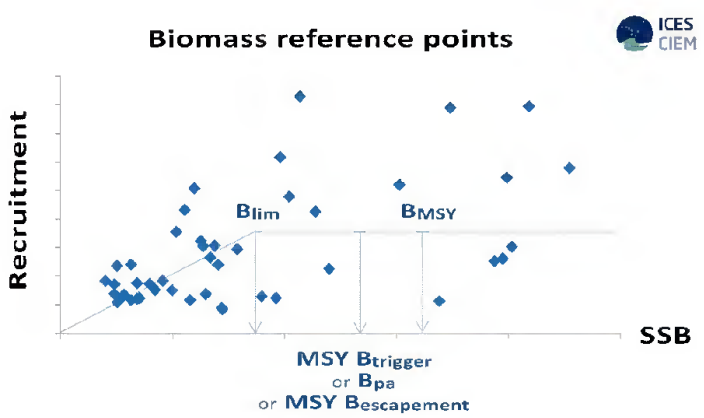


Figure 3 Illustration of biomass-based biological reference points. B_{lim} and B_{pa} are precautionary reference points related to the risk of impaired reproductive capacity, while MSY $B_{escapement}$ (often equal to B_{pa}) is used in the advice framework for short-lived species. MSY $B_{trigger}$ is the parameter in ICES MSY framework which triggers advice on reduced fishing mortality relative to F_{MSY}. B_{MSY} is the expected average biomass if the stock is exploited at F_{MSY}. The diamond shapes in the plot show the variable values of recruitment versus SSB that have been observed over the years. Recruitment can be seen to be generally lower when SSB is below B_{lim}.

Some fish eat other fish, which means growth in numbers for the predator and mortality for the prey; fish populations also compete for food or habitat. Thus the size and productivity of a fish stock may depend on the state of other stocks, as well as on its own abundance. It also means that as a population of fish increases, growth and mortality for that species cannot be expected to remain constant, as there will be increasing competition for food and habitat within that population.

ICES incorporates such multispecies interaction considerations into the single-species framework in the Baltic Sea, the Barents Sea, and the North Sea. This is done by applying natural mortality and growth rates derived from models of species interactions, using size, age, and stomach data for several species. ICES routinely incorporates short-term changes in growth and maturation into short-term projections to account for competition and food supply. ICES also expects to periodically update MSY reference points (typically as part of the benchmark process) to ensure they reflect current biological parameters and dynamics.

Long-lived category 1 and 2 stocks

For long-lived category 1 and 2 stocks, ICES bases its MSY approach on attaining a fishing mortality rate of no more than F_{MSY} while maintaining the stock above B_{lim} with at least 95% probability.

Under this approach, ICES uses the fishing mortality and biomass reference points F_{MSY} and MSY $B_{trigger}$. F_{MSY} is estimated as the fishing mortality with a given fishing pattern and current environmental conditions that gives the long-term maximum yield. To ensure that fishing at F_{MSY} is sustainable, F_{MSY} must not be above F_{pa}. The best estimate of F_{pa} is considered to be the fishing mortality that results in a less than 5% probability of SSB < B_{lim} in the long term. This is appropriate, since a precautionary approach is a necessary boundary to ensure sustainability, even though it is in itself not a sufficient condition for achieving the MSY implied by the MSY framework.

MSY $B_{trigger}$ is considered the lower bound of SSB fluctuation (fifth percentile of B_{MSY}) when fished at F_{MSY} and is used in ICES advice rule to trigger a cautious response. The cautious response, in cases where the spawning stock falls below MSY $B_{trigger}$, is to reduce fishing mortality in order to allow a stock to rebuild to levels capable of producing MSY. The reduction in fishing mortality is proportional to the ratio between the size of the spawning stock and MSY $B_{trigger}$ (SSB is estimated at spawning time [in the first year of the forecast).

The advice rule leads to catch advice corresponding to a fishing mortality of:

1) F = F_{MSY} when SSB is at or above MSY $B_{trigger}$
2) F = F_{MSY} × SSB/MSY $B_{trigger}$ when the stock is below MSY $B_{trigger}$ and above B_{lim}
3) If the F following from applying rule 2 is insufficient to bring the stock above B_{lim} in the short term, ICES advice will be based on bringing the stock above B_{lim} at the end of the projection year. If there is no F that will bring the stock above B_{lim} at the end of the projection year or when the forecast is highly sensitive to assumptions (e.g. incoming recruitment), ICES will advise zero catch based on precautionary considerations until the SSB is above B_{lim} with high probability.

Conceptually, SSB in the advice rule is the estimated spawning-stock size at the beginning of the year to which the advice applies (advice year), or at spawning time in the year before the advice year. For example, for an assessment performed in 2020 using data through 2019, the reference spawning-stock size for most stocks will be the projected size at the beginning of 2021.

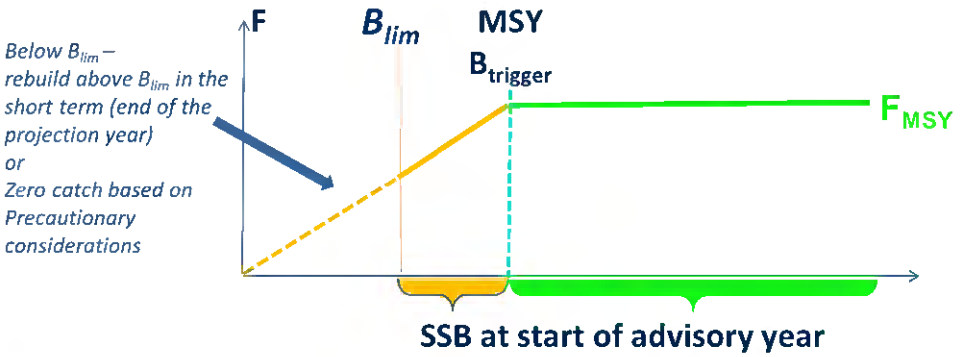


Figure 4 ICES advice rule for category 1–2 stocks.

The MSY approach does not use a B_{MSY} estimate. B_{MSY} is a notional value around which stock size fluctuates when fishing at F_{MSY}. B_{MSY} strongly depends on the interactions between the fish stock and the environment it lives in, including biological interactions between different species. Historical stock size trends may not be informative about B_{MSY} (e.g. when F has exceeded F_{MSY} for many years or when current ecosystem conditions and spatial stock structure are, or could be, substantially different from those in the past). Estimates of B_{MSY} are very sensitive to the assumption that all future factors that influence fisheries productivity remain unchanged in the future.

Determination of MSY $B_{trigger}$ requires contemporary data that identify the normal range of fluctuations in biomass when stocks are fished at F_{MSY}. If the observation on fluctuation in biomass is insufficient to estimate MSY $B_{trigger}$, the reference point is normally set at B_{pa} (if this reference point is available). If sufficient observations of SSB fluctuations associated with fishing around F_{MSY} are available, the MSY $B_{trigger}$ should be re-estimated to correspond to the fifth percentile of B_{MSY} when fishing at F_{MSY}.

ICES has provided advice on plausible values around F_{MSY} (F_{MSY} range) for a number of stocks in response to a request by the EU. The F_{MSY} ranges [$F_{MSY\,lower}$, $F_{MSY\,upper}$] are derived to deliver no more than a 5% reduction in long-term yield, compared with the MSY obtained by fishing at F_{MSY} in the long term. To be consistent with ICES precautionary approach, F_{MSY} or $F_{MSY\,upper}$ is capped so that the probability of SSB < B_{lim} is no more than 5% in any single year.

Most fisheries catch a mixture of species; it is not entirely possible to control either which species those are or how much of each species is caught. For stocks exploited by mixed-species fisheries, it may not be possible to achieve the single-stock MSY catch advice for all the stocks simultaneously. Either the advised catches for some stocks will be exceeded in trying to catch the TACs of other stocks, or the TACs for some stocks will not be caught in order to prevent overshooting the TACs of other stocks. ICES has developed a mixed-species fisheries forecast to address this; for the main demersal stocks in the

North Sea, Bay of Biscay, Iberian waters and Celtic Sea, ICES provides a range of mixed fisheries scenarios to the trade-offs between the different scenarios.

Short-lived category 1 and 2 stocks

The future size of a stock of short-lived species is very sensitive to recruitment because of the small number of age groups present in the natural population. Incoming recruitment is often the main, or only, component of the fishable stock. Care must therefore be taken to ensure that the spawning-stock size is above levels where recruitment is impaired, as the future of the stock is highly dependent on annual recruitment.

For most stocks of short-lived species, similarly to the long-lived species, the ICES MSY approach is aimed at providing MSY while ensuring that the probability of the stock being below B_{lim} in any single year is no more than 5%. For some stocks, advice is given based on agreed management plans that have been shown to be precautionary. For some other stocks, ICES uses two reference points: MSY $B_{escapement}$ (see Figure 3) and F_{cap}. MSY $B_{escapement}$ is estimated to be robust against low SSB and includes a biomass buffer to account for uncertainty in both the assessment and catch advice. In some cases, however, defining MSY $B_{escapement}$ is not necessary; this is because the escapement strategy uses a 95% probability of being above B_{lim} directly.

For many of these stocks of short-lived species, F_{cap} is defined to limit exploitation rates when biomass is high. A large stock is usually estimated with greater uncertainty; when the catch is taken, for example, the uncertainty in the escapement biomass is greater. By capping the F, the escapement biomass is increased in proportion to stock size, maintaining a high probability of achieving the minimum amount of biomass left to spawn. In some cases (such as following high recruitment), this will result in a median SSB above MSY $B_{escapement}$ in the long term.

The advised yearly catches correspond to the estimated stock biomass in excess of the MSY $B_{escapement}$ but are constrained to allow a fishing mortality no higher than F_{cap}. In the absence of agreed management plans or a defined F_{cap}, the advice is based on the MSY or precautionary approaches.

For some short-lived species, assessments are so sensitive to incoming recruitment that the amount of biomass in excess of the target escapement cannot be reliably estimated until data on the incoming year class are available. For most of the stocks concerned, such data are obtained just before the fishery starts (or during the fishing year). The advice on fishing opportunities may therefore only be given either directly prior to the start of the fishing season or after the fisheries has started.

Category 3–6 stocks

A substantial number of the stocks for which ICES provides advice have no population estimates from which catch options can be derived using the MSY framework. ICES has therefore developed a precautionary framework for quantitative advice regarding such stocks.

The overall aim of the approach for these stocks is to ensure that the advised catch is sustainable. The underlying principles of the approach are that (a) the best available information should be used and (b) a precautionary approach should be followed. The latter implies that as information becomes increasingly limited, more conservative reference points should be used, and a further margin of precaution should be adopted when there is limited knowledge of the stock status. The margin of risk tolerance is a management prerogative, but in the absence of any proposal by managers, ICES applies the values given below.

A precautionary approach for category 3–6 stocks involves a framework with the following considerations regarding uncertainty and precaution being applied in sequence:

1. The methodologies used to estimate trends in these stocks may be more susceptible to noise due to limited data or knowledge. Consequently, any change in the perception of stock trends (based on available information such as trends in biomass index or assessments considered representative of trends only) is capped by a change limit of ±20% (uncertainty cap). This cap is generally applied to the previous catch advice or, if it is the first year of application, to the average of recent catches.

2. An additional precautionary margin (a precautionary buffer [PA buffer]) with decreasing knowledge about the stock status may then be applied, subject to the following:

    a. In cases where exploitation and stock status have been identified through MSY reference points or qualitative evaluation the diagram below (boxes 1 to 5) is used to determine whether or not the precautionary buffer should be applied.
    b. In cases where exploitation and/or stock status are unknown (boxes 6 to 9 in diagram below) the PA buffer should be applied unless the exceptions in the diagram below for **both** exploitation **and** stock status are met and documented.
    c. The decision on whether or not to apply the PA buffer has to be re-considered every three years.

Table 1 Framework for application of precautionary approach for ICES category 3–6 stocks

		Stock size status or qualitative evaluation^		
		✗ or ⊗	✓ or ✓	?
Fishing pressure status or qualitative evaluation^	✗ Or ⊗	**1** Apply PA buffer	**4** Apply PA buffer	**7** Apply PA buffer
	✓ or ✓	**2** Apply PA buffer	**5** Do not apply PA buffer	**8** Consider applying PA buffer Apply Do not apply if: a) consistent* increase in stock size index or b) significant increase in stock size index ratio** (> 1.5)
	?	**3** Apply PA buffer	**6** Consider applying PA buffer: Apply Do not apply if: effort consistently* decreases or has remained stable	**9** Consider applying PA buffer: Apply Do not apply if: a) consistent increase in stock size index or b) significant increase in stock size index ratio** (> 1.5) **AND** effort consistently* decreases or has remained stable

^ The qualitative evaluation (e.g. ✗ or ✓) refers to the stock status.
* Consistent increase/decrease should be determined on the basis of a significant Mann-Kendall test using the last ten years of the stock index or effort data; the term 'consistent' replaces the term 'continuous', which allows for some year-to-year declines.
** "Index ratio" means the x latest index values compared with the y preceding values. Most often this will be the "2 over 3" stock size indicator ratio.

This framework with an uncertainty cap and application of the PA buffer was simulation tested for a range of stocks and in general was found to be appropriate (ICES, 2017). When stock trends are taken into account and combined with the considerations above, the resulting advice when using the same index of stock change may show a maximum decrease of 36% and a maximum increase of 20% over the previous advice. The advice is applicable to a time-frame that is compatible with a measurable response in the metrics used as the basis for the advice. In cases where the least amount of information is available, including cases where the 20% PA buffer has been applied, ICES considers the advice valid for a fixed and determined period. As an example, that period could be two years, unless important new knowledge emerges regarding a stock that justifies an interim revision of the advice.

The advice rule used to provide quantitative advice on fishing possibilities depends on the information available, and ICES has developed separate advice rules for each of the stock categories listed in this section and the sections above.

Category 3. Stocks for which survey-based assessments indicate trends. The most common approach for providing advice on fishing opportunities for the coming year(s) is based on the recent advised catch (or landings), adjusted for the change in stock-size index for the two most recent values relative to the three preceding values. Other reference years may be used, based on the level of stock biology knowledge (e.g. species with a relatively high longevity) or the quality of the data. Other approaches for providing precautionary advice are also available (ICES, 2012); these include providing zero catch or recovery plan advice for stocks with extremely low biomass relative to previous estimates.

Category 4. Stocks for which reliable catch data are available. The approach is to use catch information to evaluate whether the stock is fished sustainably, or whether a reduction in catch is required to achieve sustainability. Decreases or increases in catch advice are incremental and slow.

Categories 5 and 6. Stocks for which there are landings only or negligible landings and stocks caught in minor amounts as bycatch. In situations where only landings/catch data are available and no life-history or fishery information can be gleaned from similar stocks or species in the ecoregion or beyond, ICES will normally provide advice on the basis of previous catches/landings, applying the PA buffer. If catches have declined significantly over a period of time and this could represent a reduction in stock size, ICES may advise zero catch or the implementation of a management strategy.

ICES provides a framework for stock status classification relative to MSY proxies for stocks in categories 3 and 4.

A stock is classified on the basis of two MSY indicators: one for exploitation and a second for biomass. Whenever possible, the indicators are designated either green (exploitation is at or below F_{MSY}, and biomass is at or above MSY $B_{trigger}$) or red (exploitation is above the F_{MSY}, and biomass is below the MSY $B_{trigger}$). When no determination can be made, the indicators are designated as unknown.

Given the uncertainties in data and knowledge for stocks in these categories, ICES is not currently using these methods to provide quantitative estimates of the distance of F from F_{MSY} or of B from MSY $B_{trigger}$. While the classification of stocks is considered the best possible at the time of evaluation, revisions may occur as more information becomes available for these stocks and the methods and knowledge are further developed. The framework is expected to evolve over time, as the methods are further developed and validated.

Sources and references

ICES. 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM:68. 42 pp. https://doi.org/10.17895/ices.pub.5322.

ICES. 2017. Report of the ICES Workshop on the Development of Quantitative Assessment Methodologies based on Life-history traits, exploitation characteristics, and other relevant parameters for stocks in categories 3–6 (WKLIFEVI), 3–7 October 2016, Lisbon, Portugal. ICES CM 2016/ACOM:59. 106 pp.

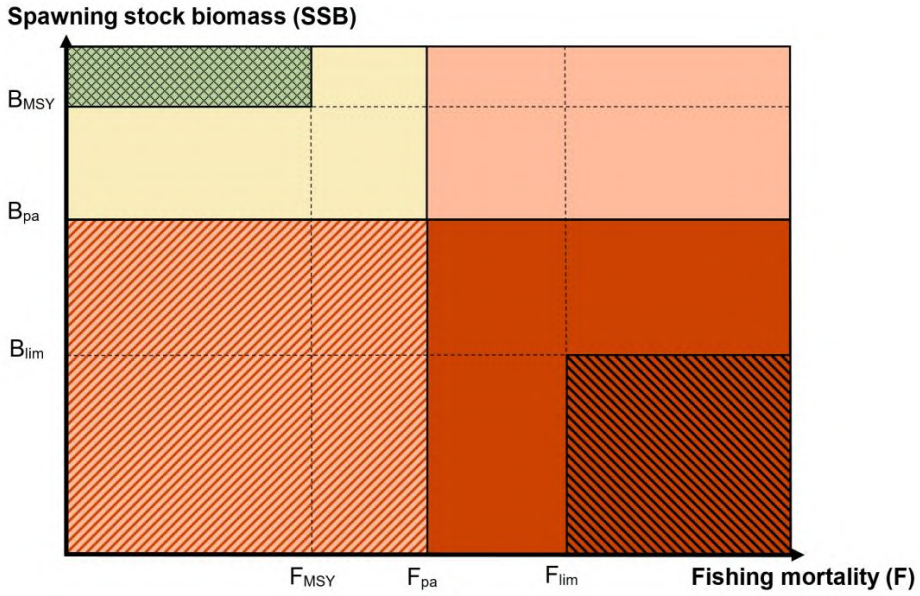
Recommended citation: ICES. 2021. Advice on fishing opportunities. *In* Report of the ICES Advisory Committee, 2021. ICES Advice 2021, section 1.1.1. https://doi.org/10.17895/ices.advice.7720.

Annex 13 - Overview of biological reference points[1]

The two main biological indicators of the exploitation and state of fish stocks assessed and presented in the ICES advice are:

1. the mortality caused by fishing, 'fishing mortality' (F), and
2. the size of the stock, 'spawning stock biomass' (SSB or B).

F is a measure of the fishing pressure, and SSB (or B) refers to adult fish which can contribute to the reproduction of the stock. In order to assess whether the stock is in a healthy, productive state and whether it is being exploited sustainably, different numerical reference points are established to measure where F and SSB are in relation to where you do (not) want them to be (see Figure 1 for an illustration).



= Both biomass (SSB) and fishing mortality (F) are in line with the CFP's Article 2(2) MSY objective (i.e. stock is above a '*biomass level[…] capable of producing the MSY*' (B_{MSY}) and fishing pressure is in line with (i.e. at or below) the '*MSY exploitation rate*' (F_{MSY}).

= The stock is within safe biological limits (i.e. SSB ≥ B_{pa} and F ≤ F_{pa}), i.e. the risk of the stock falling below B_{lim} (where reproduction is impaired), or F exceeding F_{lim} is low.

= The stock is outside safe biological limits, because fishing mortality is too high (F > F_{pa}), meaning the stock is exploited unsustainably, even though the biomass is still above B_{pa}.

= The stock is outside safe biological limits, because the biomass is too low (SSB < B_{pa}), meaning the stock is at a higher risk of impaired reproduction, even though fishing mortality is below F_{pa}.

= The stock is outside safe biological limits, because the biomass is too low (SSB < B_{pa}) and fishing mortality is

[1] This document is adapted from ClientEarth (2020). Linking the law to biological reference points used in scientific advice when setting Total Allowable Catches (TACs). December 2020. https://www.clientearth.org/latest/documents/linking-the-law-to-biological-reference-points-used-in-scientific-advice-when-setting-total-allowable-catches-tacs/

Figure 1 *This is a schematic visualisation of biological reference points used in fisheries science, for example by ICES, when providing scientific catch advice. Note that the distances between the points and the area-sizes displayed are not intended to be proportionate. For reasons of simplicity, MSY $B_{trigger}$ (the lower boundary of the fluctuation around B_{MSY} at which point action must be taken) is not depicted, but it would be found between B_{pa} and B_{MSY}. Note that the graph is open-ended on the right and at the top.*

ICES uses two 'limit' reference points (F_{lim} and B_{lim}) to mark the critical boundaries outside of which the stock is at a high risk of impaired reproduction and thus potential collapse. So when F is higher than F_{lim}, and/or SSB is below B_{lim}, the stock is in a very bad, risky state.

Precautionary ('PA') reference points (F_{pa} and B_{pa}) mark the 'safe biological limits'.[2] So if F is smaller than F_{pa} and SSB is above B_{pa}, the stock is not at immediate risk of impaired reproduction or collapse, though not at its most productive level either. These PA reference points are formulated in the face of uncertainty about the true stock size. When F is smaller than F_{pa} and SSB is above B_{pa}, there is a low probability of the stock actually being below B_{lim}.

MSY reference points (F_{MSY} and B_{MSY}) refer to the fishing mortality and biomass expected to deliver MSY. '*ICES interpretation of MSY is maximizing the average long-term yield from a given stock while maintaining productive fish stocks*'.[3] It is basically the peak of the 'surplus production' of a stock, i.e. of the catch that can be harvested without changing the stock's average production in the long-term.

B_{MSY} is not yet known for most stocks. You need to have fished at or below F_{MSY} for a long enough time to establish this reference point precisely, which has not been the case for most stocks. For these stocks, ICES uses 'MSY $B_{trigger}$', which marks the lower boundary of the natural fluctuation around B_{MSY}, as a key reference point in its advice on catch limits. In most cases this point is still set at B_{pa}, because the necessary information to establish the true MSY $B_{trigger}$ as a standalone value is not yet available either.

If ICES assesses a stock to have fallen below the MSY $B_{trigger}$ biomass, this 'triggers' ICES to use a more cautious approach regarding its catch advice, namely '*to reduce fishing mortality in order to allow a stock to rebuild to levels capable of producing MSY*'.[4] So, when the stock is in a worse state (i.e. below MSY $B_{trigger}$), ICES' catch advice will be lower than if it is in a better state (i.e. above MSY $B_{trigger}$), because the fishing pressure needs to be decreased to restore the stock.

Where are the stocks covered by this case in relation to biological reference points?

Figure 2 below illustrates where the stocks covered in this case are in relation to biological reference, where this information is available. This applies to three of the stocks, Celtic Sea cod (COD/7XAD34), Irish Sea whiting (WHG/07A.) and West of Scotland cod (COD/5BE6A), all of which are subject to dangerously high exploitation rates ($F > F_{lim}$) and have a very low stock size ($SSB < B_{lim}$) at or near the historical minimum.

For all other stocks covered by this case the exploitation and stock status in relation to reference points is unknown and the stocks are therefore not displayed in the diagram below.

[2] The corresponding definition provided in Article. 4(18) of the CFP basic regulation is: 'stock within safe biological limits' means a stock with a high probability that its estimated spawning biomass at the end of the previous year is higher than the limit biomass reference point (Blim) and its estimated fishing mortality rate for the previous year is less than the limit fishing mortality rate reference point (Flim)'
[3] ICES (2021): Advice on fishing opportunities. ICES Technical Guidelines. Report. https://doi.org/10.17895/ices.advice.7720. P. 6.
[4] Ibid.

- For the following stocks no information on stock size or exploitation rate is presented in the ICES advice at all: Rockall cod (COD/5W6-14), common sole in the West of Ireland (SOL/7BC.), northern shrimp in the norther North Sea, Fladen Ground (PRA/2AC4-C) and pollack in the Bay of Biscay and Atlantic Iberian waters (POL/8ABDE. + POL/08C. + POL/9/3411).
- The situation for the following stocks is also unknown, but the available biomass indices suggest that the stocks are in the middle or higher part of the historical time series: southern hake (HKE/8C3411) and Norway lobster in function units 28-29 (part of NEP/9/3411, alongside functional units 26-27 and 30).
- However, the stock size of the following stocks, while reference points are not available, is estimated to be at or near the historical minimum: Kattegat cod (COD/03AS.), herring in the West of Scotland and West of Ireland (HER/5B6ANB and HER/6AS7BC), herring in the Irish Sea, Celtic Sea and southwest of Ireland (HER/7G-K.), and Norway lobster in functional unit 25 (NEP/8CU25).

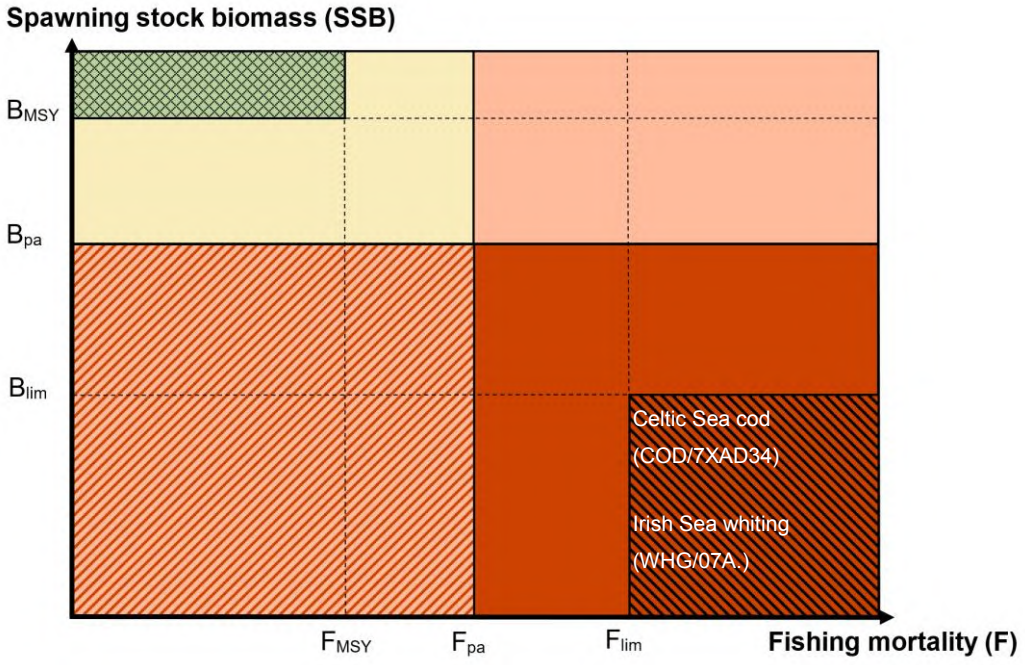


Figure 2 This is a schematic visualisation of the situation of the three stocks covered by this case for which biological reference points are available: Celtic Sea cod (COD/7XAD34), Irish Sea whiting (WHG/07A.) and West of Scotland cod (COD/5BE6A). All three stocks are far outside safe biological limits (i.e. F > F_{pa} and SSB < B_{pa}), and even in such a precarious situation (F > F_{lim} and SSB < B_{lim}) that reproduction is likely to be impaired. See the caption for Figure 1 for an explanation of the reference points and colours. The other stocks covered by this case are not displayed in this diagram since the exploitation and stock status in relation to reference points is unknown.

Annex 14 – Selected stock profiles for TACs set above scientific advice by the Council

Scientific advice provided by ICES as the reference for this analysis

Selected stock profiles analysed in this Annex rely on scientific advice provided by the International Council for the Exploration of the Sea (ICES). ICES is an intergovernmental marine science organisation that provides impartial evidence on the state and sustainable use of our seas and oceans.[1]

ICES advice is unanimously recognised by the Council, the Member States, the European Parliament and the Commission as being the best available scientific advice for the setting of Total Allowable Catches (TACs). ICES has been for 30 years *"the sole advisory body concerning advice for fisheries management"*[2] and its advice is unbiased and independent.[3]

The Contested Act itself - which fixes TACs for all stocks profiles analysed in the present Annex - states in Recital 5 that *"fishing opportunities should be based on the advice figure […] provided by the International Council for the Exploration of the Sea (ICES)*". This recital confirms the position of the Council that ICES advice is not only the best available scientific advice but also its agreement that, accordingly, it is required to base the TACs on ICES advice.

For the reasons mentioned above, the analysis of stock profiles in this Annex fully relies on scientific advice provided by ICES. A list of TACs identified by ClientEarth as exceeding the best available scientific advice, i.e. the headline advice provided by ICES for 2022, is provided in Tables 3 and 4 in the Request for Internal Review. The situation is described in more detail below for some of these stocks.

Provisional by-catch TACs set above MSY advice by the Council

The stocks in this category include Celtic Sea (COD/7XAD34), Irish Sea whiting (WHG/07A.) and West of Scotland cod (COD/5BE6A). All three are shared with the UK, and the Contested Act therefore contains provisional TACs, whereas the final figures agreed with the UK and included in the agreed written record are yet to be transposed into EU law through an amendment to the Contested Act.[4]

The points made in this section focus on the figures included in the Contested Act, albeit already referencing the situation related to the final figures that are already known, i.e. those agreed in the written record.

In addition to being shared between the EU and the UK, and subject to provisional TACs, the three stocks in this category have the following aspects in common:

- The scientific advice is based on MSY and it is for zero catches;

[1] https://www.ices.dk/about-ICES/who-we-are/Pages/Who-we-are.aspx [consulted on 22 March 2022].
[2] Cooperation Agreement between ICES and the European Union on providing scientific advice from July 2021 to December 2021 (SPECIFIC GRANT AGREEMENT NO SI2. 854269), p. 14: https://www.ices.dk/about-ICES/Documents/Cooperation%20agreements/EU/ICES_EUMare_2021.pdf [consulted on 22 March 2022].
[3] *Ibid*., p. 25: *"ICES aims at producing advice based on the best available science that is characterised by quality assurance, developed in a transparent process, unbiased, independent, and is recognised by all parties as being relevant to management"*.
[4] The Commission Proposal with final TACs for EU/UK shared stocks has already been published on 16 February 2022 and contains the same figures as specified in the Agreed Written Record: Commission Proposal for a Council Regulation amending Regulation (EU) 2022/109 fixing for 2022 the fishing opportunities for certain fish stocks and groups of fish stocks applicable in Union waters and for Union fishing vessels in certain non-Union waters, 16/2/2022, COM(2022) 54 final.

- They are depleted (far below the lowest biomass reference point B_{lim}, at or near the historical minimum, corresponding to less than 7% of their highest recorded historical biomass level);[5]
- The fishing pressure is above the highest exploitation reference point F_{lim};
- They are subject to the Western Waters Regulation, falling under Article 1(1) (Celtic Sea cod) or Article 1(4) (Irish Sea whiting and West of Scotland cod);
- They are subject to a by-catch TAC that exceeds the ICES headline advice of zero catches;
- The final TACs included in the agreed written record also exceed any MSY-related scenarios in the catch options tables presented by ICES, whereas the (lower) provisional TACs in the Contested Act at least exceed the $F_{MSY\ upper}$ scenario which reflects the low stock size.[6]

Celtic Sea cod (COD/7XAD34)

Table 1. Overview of the stock situation of Celtic Sea cod and information regarding the level at which the 2022 TAC was set, and its implications.

ICES headline advice	**Agreed 2022 TAC**	**Stock and exploitation status**	**2022 TAC compared to other catch scenarios**[7]	**2022 TAC versus recent SSB estimate**[8]	**Projected SSB increase**[9]
0 t	Provi-sional: 202 t; (final: 644 t)	SSB < B_{lim} F > F_{lim}	The final by-catch TAC was set 20% below the 2021 TAC of 805 t, and is above any MSY-related scenario. It is between the F_{MSY} scenario (519 t) and the "whiting F_{MSY}" scenario (814 t).[10] The provisional TAC as included in the Contested Act exceeds both the headline advice (zero catch) and the $F_{MSY\ upper}$ x SSB_{2022}/MSY $B_{trigger}$ scenario (186 t) reflecting the low biomass level.	The final by-catch TAC corresponds to 48% of the latest (2022) SSB estimate (1354 t)	With advice: +155%; with final TAC: between +66% (whiting F_{MSY} scenario)[11] and +97% (F_{MSY} scenario)

As Figure 1 shows, Celtic Sea cod has been at dangerously low levels (SSB below B_{lim}) for several years and remains close to its all-time low, after decades of overfishing (F above F_{MSY} for the entire time series and above F_{pa} for most of it, more recently above F_{lim}).

[5] Celtic Sea cod: SSB (2021) = 1710 t versus highest recorded value SSB (1989) = 22338 t, i.e. 6.1%. Irish Sea whiting: SSB (2021) = 1393 t versus highest recorded value SSB (1981) = 46274 t, i.e. 2.9%. West of Scotland cod: SSB (2020) = 3304 t versus highest recorded value SSB (1981) = 44062 t, i.e. 6.9%. Based on the "Value" column in Table 10 of the respective single-stock advice for ICES stock codes "cod.27.7e-k", "whg.27.7a" and "cod.27.6a": ICES (2021): Cod (Gadus morhua) in divisions 7.e–k (eastern English Channel and southern Celtic Seas). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7751; ICES (2021): Whiting (Merlangius merlangus) in Division 7.a (Irish Sea). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7887; ICES (2021): Cod (Gadus morhua) in divisions 7.e–k (eastern English Channel and southern Celtic Seas). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7751

[6] ICES in its catch options for these stocks provides an $F_{MSY\ upper}$ scenario which reflects the low biomass, by multiplying the $F_{MSY\ upper}$ with the quotient of the recent SSB estimate and the MSY $B_{trigger}$. This means that the resulting catch option is decreased, in line with the ICES MSY approach, to reflect that the current SSB is below the MSY $B_{trigger}$, triggering a more cautious approach than if it were at or above MSY $B_{trigger}$. The resulting catch option is therefore lower than the pure $F_{MSY\ upper}$ catch option. This scenario is listed as "$F_{MSY\ upper}$ x SSB_{2022}/MSY $B_{trigger}$" for Celtic Sea cod and Irish Sea whiting (corresponding to 186 t and 44 t, respectively), and as "$F_{MSY\ upper}$ x SSB (2021) / MSY $B_{trigger}$" for West of Scotland cod (corresponding to 198 t), in the respective ICES single-stock advice.

[7] ICES stock code "cod.27.7e-k". ICES (2021): Cod (Gadus morhua) in divisions 7.e–k (eastern English Channel and southern Celtic Seas). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7751. The scenarios referred to in this column are presented in Table 3 of this advice unless otherwise specified.

[8] *Ibid*., the SSB (2022) estimate comes from Table 2 on p. 1.

[9] *Ibid*., the SSB increase estimates of +155% for following the zero catch advice and +97% for the F_{MSY} point value scenario come from Table 3, p. 2.

[10] ICES (2021): EU standing request on catch scenarios for zero-TAC stocks; cod (Gadus morhua) in divisions 7.e–k (Celtic Sea). ICES Advice: Special Requests. Report. https://doi.org/10.17895/ices.advice.9151. This ICES Technical Service which provides further catch scenarios in addition to the official ICES single-stock advice contains a "whiting F_{MSY}" scenario presented in Table 2, p. 3, which is based on fishing whiting in the Celtic Sea at the reduced F_{MSY} (F_{MSY} x SSB_{2021}/MSY $B_{trigger}$) and corresponds to cod catches of 814 t.

[11] *Ibid*., the +66% estimate is based on the 2023 SSB estimate of 2242 t specified in Table 3 for the "Whiting FMSY" scenario, compared to the SSB (2022) estimate of 1354 t, i.e. (2242- 1354)/1354) = 0.66.

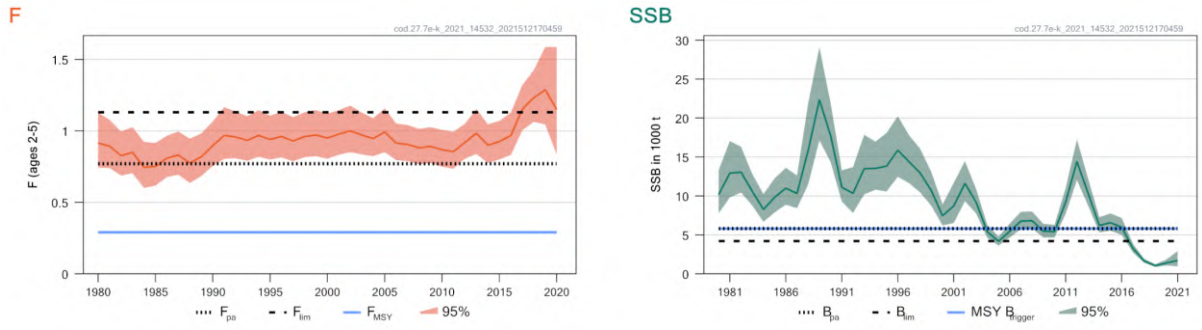


Figure 1. Time series of exploitation rate (F) and stock size (SSB) of Celtic Sea cod in relation to biological reference points, based on the most recent ICES advice.[12]

Celtic Sea cod is explicitly listed under Article 1(1)(7) of the Western Waters Regulation. As this stock is below both MSY $B_{trigger}$ and even B_{lim}, this triggers the safeguards set out in Article 8. According to Article 8(1) and (2) of the Western Waters Regulation, the TAC needs to be consistent "*with a fishing mortality that is reduced below the upper range of F_{MSY}, taking into account the decrease in biomass*", and there is an objective *"to ensure rapid return of the stock […] to levels above those capable of producing MSY"*.

The provisional TAC of 202 tonnes included in the Contested Act exceeds both the ICES headline advice for zero catches, and the $F_{MSY\ upper}$ scenario, which reflects the low stock size, of 186 tonnes. The final TAC of 644 tonnes, as included in the EU/UK agreed written record and in the Commission's proposal for first amendment of the Contested Act, also exceeds any other MSY-related scenarios included in the catch options table provided by ICES, including for example, the F_{MSY} point value scenario of 519 tonnes.

Notably, the catch scenario provided by ICES which would be the closest to the final 2022 TAC of 644 tonnes (namely the F_{MSY} scenario of 519 tonnes, which does not take into account the low stock size) is projected to result in only a 97% increase of the stock size, compared to a 155% increase if the zero catch advice was followed.[13] This shows that this TAC, which is due to replace the provisional TAC of 202 tonnes, is not geared towards rapid recovery of this stock.

According to ICES, the stock size of Celtic Sea cod is estimated to remain below B_{lim} (4200 tonnes). Even if the zero catch advice was followed, it is projected to increase only to 3449 tonnes in 2023,[14] i.e. ~82% of the B_{lim}. The risk of the stock falling or remaining below B_{lim} is thus arguably higher than 5%, as referred to in Article 4(7) of the Western Waters Regulation, particularly if the zero catch advice is not followed.

In conclusion, setting any non-zero TAC for Celtic Sea cod should be seen to not only exceed the best available scientific advice for the purpose of implementing the objectives of Article 2 of the CFP Basic Regulation, but also to violate Articles 4(5), 4(7) and 8(1) of the Western Waters Regulation.

[12] ICES stock code "cod.27.7e-k". ICES (2021): Cod (Gadus morhua) in divisions 7.e–k (eastern English Channel and southern Celtic Seas). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7751. Figure 1 on p. 1.
[13] *Ibid*., Table 3 on p. 2, rows "F = F_{MSY}" and "MSY approach: F = 0".
[14] *Ibid*., Table 3 on p. 2, row "MSY approach: F = 0". The B_{lim} of 4200 t is specified in Table 5, p. 4.

It is also worth noting that according to further catch scenarios provided by ICES[15,16] in addition to the single-stock advice, the final TACs set for haddock (HAD/7X7A34) and megrim (LEZ/07. and LEZ/8ABDE.) – alongside which Celtic Sea cod is caught – are projected to result in cod catches far above the final agreed by-catch TAC of 644 tonnes, as demonstrated below.

The final haddock TAC was set at 15000 tonnes in the agreed written record (constituting a rollover from 2021, corresponding to a provisional TAC of 3597 tonnes in the Contested Act), which is below the F_{MSY} point value advice for that stock (15946 tonnes), but far above the $F_{MSY\ lower}$ scenario (10570 tonnes).[17] This TAC is projected to result in a by-catch of cod between 1498 tonnes (for the haddock F_{MSY} scenario) and 1321 tonnes (for the haddock midway between F_{MSY} and $F_{MSY\ lower}$ scenario),[18] which is more than twice the agreed TAC for cod. Even if the final haddock TAC had been set at $F_{MSY\ lower}$, this would still have resulted in cod catches of 1109 tonnes,[19] i.e. still far above the agreed 644 tonnes.

The sum of the final TACs for megrim and four-spot megrim were set below the sum of the headline advice for both stocks,[20] but the agreed level is somewhere between the had.2.7b-k and sq_E scenarios presented in the mixed fisheries considerations,[21] which are projected to result in cod catches of between 1543 tonnes and 1536 tonnes.

This means that the TACs for these other key stocks in the mixed fisheries are not compatible with the final cod TAC (which itself already exceeds the advice): if fully exhausted, the haddock and megrim TACs would lead to a considerable overshoot of the final cod TAC. This failure to prioritise the recovery and protection of the most limiting and vulnerable stock in the fishery – Celtic Sea cod – when setting TACs for other stocks in the mixed fishery is contrary to the implementation of an ecosystem-based approach to fisheries management as required by Article 2(3) of the CFP Basic Regulation.

Irish Sea whiting (WHG/07A.)

[15] ICES (2021): EU standing request on catch scenarios for zero-TAC stocks; cod (Gadus morhua) in divisions 7.e–k (Celtic Sea). ICES Advice: Special Requests. Report. https://doi.org/10.17895/ices.advice.9151. This document provides scenarios for how much cod is anticipated to be caught if haddock and whiting are fished at a particular level. This does not constitute ICES advice for sustainable catch levels of cod, but rather projections of what the consequences of selecting a particular scenario for other stocks in the same fishery would be for cod.

[16] ICES (2021): Celtic Sea - mixed fisheries considerations. ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.9184. This document presents mixed-fisheries considerations for the Celtic Sea that illustrate what catch levels of the different stocks are expected under different scenarios. They help highlight situations in which the full exploitation of one stock in line with its single-stock advice would lead to overfishing of other stocks, or in which the cessation of fishing operations once the advised catch for a particular stock has been reached would mean the single-stock advice for another stock cannot be fully exhausted.

[17] ICES stock code "had.27.7bk", ICES (2021): Haddock (Melanogrammus aeglefinus) in divisions 7.b–k (southern Celtic Seas and English Channel). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7764. Table 3, p. 2, rows "MSY approach: F_{MSY}" and "F = MAP^^ $F_{MSY\ lower}$".

[18] ICES (2021): EU standing request on catch scenarios for zero-TAC stocks; cod (Gadus morhua) in divisions 7.e–k (Celtic Sea). ICES Advice: Special Requests. Report. https://doi.org/10.17895/ices.advice.9151. Table 2, p. 3, scenarios "Haddock F_{MSY}" and "Haddock $F_{MSY\ lower}$ – F_{MSY}", row 1.

[19] *Ibid.*, Table 2, p. 3, "Haddock $F_{MSY\ lower}$" scenario, row 1.

[20] The TACs LEZ/07. and LEZ/8ABDE. correspond to two megrim stocks (megrim and four-spot megrim) with ICES stock codes meg.27.7b-k8abd and ldb.27.7b-8abd. The sum of the advice for the two stocks is 22964 + 867 = 23831 t (and the corresponding final TACs were set at 20786 t (18916 t + 1870 t). ICES advice for megrim (ICES stock code "meg.27.7b-k8abd"), ICES (2021): Megrim (Lepidorhombus whiffiagonis) in divisions 7.b–k, 8.a–b, and 8.d (west and southwest of Ireland, Bay of Biscay). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7790. ICES advice for four-spot megrim (ICES stock code "ldb.27.7k8abd"): ICES (2021): Four-spot megrim (Lepidorhombus boscii) in divisions 7.b–k, 8.a–b, and 8.d (west and southwest of Ireland, Bay of Biscay). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7780.

[21] ICES (2021): Celtic Sea - mixed fisheries considerations. ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.9184; Table 3, p. 4, column "had.27.7b-k" and "sq_E", row for "cod.27.7e-k".

Table 2. Overview of the stock situation of Irish Sea whiting and information regarding the level at which the 2022 TAC was set, and its implications.

ICES headline advice	Agreed 2022 TAC	Stock and exploitation status	2022 TAC compared to other catch scenarios[22]	2022 TAC versus recent SSB estimate[23]	Projected SSB increase[24]
0 t	Provi-sional: 289 t (final: 721 t)	SSB < B_{lim} F > F_{lim}	The final by-catch TAC represents a rollover of the 2021 TAC. It is above any MSY-related scenarios as well as the F_{pa} scenario (498 t), and close to the F_{lim} scenario (794 t). The provisional TAC as included in the Contested Act exceeds both the headline advice (zero catch) and the $F_{MSY\ upper}$ x SSB_{2022}/MSY $B_{trigger}$ scenario (44 t) reflecting the low biomass level.	54% of the latest (2022) SSB estimate (1326 t)	With advice: +76%; with TAC: between +23% with F_{lim} scenario and +42% with $F_{MSY}/F_{MSY\ upper}/F_{pa}$ scenario

As Figure 2 shows,[25] Irish Sea whiting has been at dangerously low levels (SSB below B_{lim}) for almost three decades and remains close to the all-time low, after decades of overfishing (F above F_{MSY}, F_{pa} and even F_{lim} throughout the entire time series).

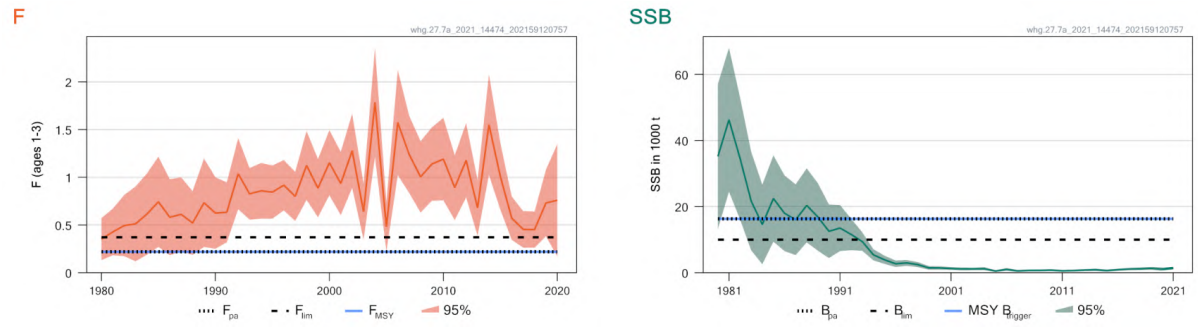


Figure 2. Time series of exploitation rate (F) and stock size (SSB) of Irish Sea whiting in relation to biological reference points, based on the most recent ICES advice.

The provisional TAC of 289 tonnes included in the Contested Act exceeds both the ICES headline advice for zero catches, and the aforementioned $F_{MSY\ upper}$ scenario, which reflects the low stock size, of 44 tonnes.[26] The final TAC of 721 tonnes, as included in the agreed written record and in the Commission's proposal for the first amendment of the Contested Act, represents a rollover of the 2021 TAC. It also exceeds any other MSY-related scenarios included in the catch options table provided by ICES, including for example the $F_{MSY\ upper}$ scenario of 498 tonnes, which is the same as the F_{MSY} point value and F_{pa} scenario, and is close to the F_{lim} scenario of 794 tonnes.

Notably, the catch scenario provided by ICES closest to the final 2022 TAC (namely the F_{lim} scenario) is projected to result in only a 23% increase of the stock size, compared to 76% if the

[22] ICES stock code "whg.27.7a", ICES (2021): Whiting (Merlangius merlangus) in Division 7.a (Irish Sea). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7887. The scenarios referred to in this column are presented in Table 3 of this advice unless otherwise specified.
[23] *Ibid.*, the SSB (2022) estimate comes from Table 1 on p. 1.
[24] *Ibid.*, the SSB increase estimates of +76% for following the zero catch advice, +23% for the F_{lim} scenario and +42% with the $F_{MSY}/F_{MSY\ upper}/F_{pa}$ scenario (all three are the same) come from Table 2, p. 2.
[25] *Ibid.*, Figure 1, graphs on "F" and "SSB", p. 1.
[26] *Ibid.*, "$F_{MSY\ upper}$ x SSB_{2022}/MSY $B_{trigger}$" scenario in Table 1, p. 2.

zero catch advice was followed,[27] showing that this TAC is not geared towards rapid recovery of this stock.

Irish Sea whiting is not explicitly listed as a target stock under Article 1(1) of the Western Waters Regulation, but as a by-catch in fisheries of stocks listed under Article 1(1), such as Norway lobster in the Irish Sea (Article 1(1)(23)), it falls under Article 1(4) of the Western Waters Regulation. It is thus to be managed in line with Article 5 of the Western Waters Regulation regarding by-catch stocks, but is also subject to Article 4(7) which applies to all stocks covered by the Western Waters Regulation.

According to the ICES advice for this stock, the stock size is extremely low and estimated to remain below B_{lim} (10000 tonnes) – even if the zero catch advice was followed, it is projected to only increase to 2334 tonnes, i.e. less than 25% of the B_{lim}.[28] The risk of the stock falling or remaining below B_{lim} is thus arguably higher than 5%, as referred to in Article 4(7) of the Western Waters Regulation, particularly if the zero catch advice is not followed.

In conclusion, setting any non-zero TAC should be seen to not only exceed the best available scientific advice for the purpose of implementing the CFP's Article 2(2) objective, but also to violate Article 4(7) of the Western Waters Regulation. Moreover, Article 4(4) of the Western Waters Regulation states that the upper range of F_{MSY} can only be used for stocks above MSY $B_{trigger}$, while Irish Sea whiting is below B_{lim}. In any case, the Western Waters Regulation allows the use of the upper F_{MSY} range only for stocks listed in Article 1(1) of the Western Waters Regulation which meet the conditions in Article 4(5). Under no circumstance does Article 4 of the Western Waters Regulation allow for an exploitation rate above $F_{MSY\ upper}$. Irish Sea whiting is not listed in Article 1(1), meaning that the upper F_{MSY} range must not be used, and the final agreed TAC goes even beyond the $F_{MSY\ upper}$.

According to the ICES advice, the "*majority of whiting caught are discards in the Nephrops [Norway lobster] fishery and are below the minimum conservation reference size (MCRS)*".[29] The TAC for Norway lobster in area VII (which includes the Irish Sea) has been set below the sum of the catch advice for Norway lobster in the corresponding functional units for the last four years. However, discards of Irish Sea whiting "*remain high relative to the landings*" despite the introduction of further highly selective gears to reduce finfish catch and discards in that fishery. For example, in 2020, the most recent year for which this information is available, 1030 tonnes of the "ICES catch" of 1118 tonnes, i.e. 92%, were discarded.[30] The decision of the Council to allow the Norway lobster fishery to continue at a level resulting in such substantial by-catches and discards of the vulnerable Irish Sea whiting stocks is contrary to the ecosystem-based approach required by Article 2(3) of the CFP basic regulation.

[27] *Ibid.*, Table 2 on p. 2, rows "F = F_{lim}" and "MSY approach".
[28] *Ibid.*, Table 2 on p. 2, row "MSY approach". The B_{lim} of 10000 t is specified in Table 4, p. 3.
[29] *Ibid.*, p. 3.
[30] *Ibid.*, Table 6, columns "Discards" and "ICES catch" for the year 2020.

West of Scotland cod (COD/5BE6A)

Table 3. Overview of the stock situation of West of Scotland cod and information regarding the level at which the 2022 TAC was set, and its implications.

ICES headline advice	Agreed 2022 TAC	Stock and exploitation status	2022 TAC compared to other catch scenarios[31]	2022 TAC versus recent SSB estimate[32]	Projected SSB increase[33]
0 t	Provi-sional: 320 t (final: 1279 t)	SSB < B_{lim} F > F_{lim}	The final by-catch TAC represents a rollover of the 2021 TAC. It is above any MSY-related scenarios, and between the F_{pa} scenario (1182 t) and the saithe scenario (1319 t).[34] The provisional TAC as included in the Contested Act exceeds both the headline advice (zero catch) and the $F_{MSY\ upper}$ x SSB_{2021}/MSY $B_{trigger}$ scenario (198 t) reflecting the low biomass level.	42% of the latest (2021) SSB estimate (3025 t)	With advice: +70% (for 2023); with TAC: the final agreed TAC is closest to the saithe (or "0.69*F_{2021}") scenario for which a +17% SSB increase is projected for 2023; a +36% increase is projected for the F_{MSY} scenario of 841 t

As Figure 3 shows,[35] West of Scotland cod has been at dangerously low levels (SSB below B_{lim}) for almost three decades and remains close to the all-time low, after decades of overfishing (F above F_{MSY}, F_{pa} and even F_{lim} throughout the entire time series).

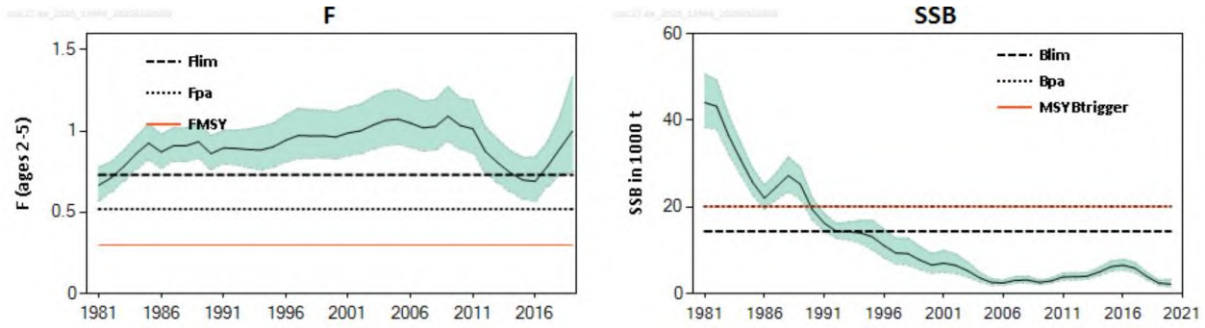


Figure 3. Time series of exploitation rate (F) and stock size (SSB) of West of Scotland cod in relation to biological reference points, based on the most recent ICES advice.

The provisional TAC of 320 tonnes included in the Contested Act exceeds both the ICES headline advice for zero catches, and the aforementioned $F_{MSY\ upper}$ scenario which reflects the low stock size, of 198 tonnes. The final TAC of 1279 tonnes, as included in the agreed written record and in

[31] ICES stock code "cod.27.6a", ICES (2020): Cod (Gadus morhua) in Division 6.a (West of Scotland). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.6106. The scenarios referred to in this column are presented in Table 3 of this advice unless otherwise specified.
[32] *Ibid*., the SSB (2022) estimate comes from Table 2 on p. 1.
[33] ICES (2021): EU standing request on catch scenarios for zero TAC stocks 2021; cod (Gadus morhua) in Division 6.a (West of Scotland) and whiting (Merlangius merlangus) in Division 7.a (Irish Sea). ICES Advice: Special Requests. Report. https://doi.org/10.17895/ices.advice.8218. While the latest single-stock advice for West of Scotland cod was not updated in 2021, meaning that it does not contain SSB projections for 2022, a few additional catch scenarios are presented in this ICES Technical Service, along with estimates for the projected change in SSB for 2023 compared to 2022. The details presented in this column come from Table 3 on p. 3 of that Technical Service.
[34] *Ibid*.; This ICES Technical Service contains a "F = 0.69 x F_{2022}" scenario corresponding to the single-stock advice for saithe being followed, presented in Table 3, p. 3, with a projected West of Scotland cod catch of 1319 t.
[35] ICES stock code "cod.27.6a", ICES (2020). Cod (Gadus morhua) in Division 6.a (West of Scotland). In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, cod.27.6a. https://doi.org/10.17895/ices.advice.6106; Figure 1, graphs on "F" and "SSB", p. 1.

the Commission's proposal for first amendment of the Contested Act, represents a rollover of the 2021 TAC. It also exceeds any other MSY-related scenarios included in the catch options table provided by ICES, including for example the $F_{MSY\ upper}$ scenario of 1124 tonnes and the F_{MSY} point value scenario, and is also above the F_{pa} scenario of 1182 tonnes.

Notably, the final agreed rollover TAC is projected by the official ICES advice from 2020 to result in only a 45% increase of the stock size in 2022 in comparison to 2021, compared to 101% if the zero catch advice was followed, and 69% with the F_{MSY} scenario,[36] showing that this TAC is not geared towards rapid recovery of this stock. Note that the single-stock advice was not updated in 2022 and a biomass forecast for 2023 is therefore not presented. However, the ICES Technical Service on catch scenarios for stocks with zero-catch advice includes some updated scenarios with biomass forecasts for 2023.[37] According to this, the headline advice of zero catch would now mean a 70% SSB increase in 2023, the F_{MSY} scenario (with a catch of 841 tonnes in 2022) corresponds to a 36% SSB increase in 2023, and the $F_{MSY\ lower}$ scenario (with a catch of 534 tonnes in 2022) corresponds to a 49% increase.[38] This indicates that the updated outlook for 2023 is less positive than that for 2022 based on the official single-stock advice from 2020, with smaller projected SSB increases. The catch scenario closest to the agreed final TAC of 1279 tonnes is the scenario based on the single-stock advice for saithe being followed, which is projected to result only in a 17% SSB increase in 2023, far below the recovery associated with following the headline advice for zero catch (+70%).[39] The above conclusion, that the agreed final TAC is not geared towards rapid stock recovery, thus remains valid based on these updated projections.

West of Scotland cod is not explicitly listed under Article 1(1) of the Western Waters Regulation, but by-catches of this stock alongside other stocks under the MAP, such as Norway lobster (Article 1(1)(22)) fall under Article 1(4). It is thus to be managed in line with Article 5 of the Western Waters Regulation regarding by-catch stocks, but is also subject to Article 4(7) which applies to all stocks covered by the Western Waters Regulation.

According to the ICES advice for this stock, the stock size is extremely low and estimated to remain below B_{lim} (14376 tonnes),[40] even if the zero catch advice was followed. Based on the ICES Technical Service it is projected to only increase to 5040 tonnes in 2023,[41] i.e. 35% of the B_{lim}. The risk of the stock falling or remaining below B_{lim} is thus arguably higher than 5%, as referred to in Article 4(7) of the WWMAP, particularly since the zero catch advice was not followed.

In conclusion, setting any non-zero TAC should be seen to not only exceed the best available scientific advice for the purpose of implementing the CFP's Article 2(2) objective, but also to violate Article 4(7) of the Western Waters Regulation. Moreover, Article 4(4) of the Western Waters Regulation states that the upper range of F_{MSY} can only be used for stocks above MSY $B_{trigger}$, while West of Scotland cod is below B_{lim}. In any case, the Western Waters Regulation allows the use of the upper F_{MSY} range only for stocks listed in Article 1(1) of the Western Waters Regulation which meet the conditions in Article 4(5). Under no circumstance does Article 4 of the Western Waters Regulation allow for an exploitation rate above $F_{MSY\ upper}$. West of Scotland cod is not listed

[36] *Ibid.,* Table 3, p. 2, column "% SSB change" for rows "Rollover TAC", "MSY approach: F = 0" and "F = F_{MSY}".
[37] ICES (2021): EU standing request on catch scenarios for zero TAC stocks 2021; cod (Gadus morhua) in Division 6.a (West of Scotland) and whiting (Merlangius merlangus) in Division 7.a (Irish Sea). ICES Advice: Special Requests. Report. https://doi.org/10.17895/ices.advice.8218.
[38] *Ibid*., Table 3, p. 3.
[39] *Ibid*., Table 3, p. 3, row for scenario "F = 0.69 x F_{2021}".
[40] ICES stock code "cod.27.6a", ICES (2020). Cod (Gadus morhua) in Division 6.a (West of Scotland). In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, cod.27.6a. https://doi.org/10.17895/ices.advice.6106. The B_{lim} of 14376 is specified in Table 5, p. 4.
[41] ICES (2021): EU standing request on catch scenarios for zero TAC stocks 2021; cod (Gadus morhua) in Division 6.a (West of Scotland) and whiting (Merlangius merlangus) in Division 7.a (Irish Sea). ICES Advice: Special Requests. Report. https://doi.org/10.17895/ices.advice.8218. Table 3, p. 3.

in Article 1(1), meaning that the upper F_{MSY} range must not be used, and the final agreed TAC goes even beyond the $F_{MSY\ upper}$.

According to the ICES advice, West of Scotland cod is primarily caught using demersal finfish trawls and in the Norway lobster fishery. The ICES Technical Service on catch scenarios for stocks with zero-catch advice calls it a "*minor bycatch stock of the fisheries targeting Northern shelf haddock, saithe, and Anglerfish*".[42] The catch scenario closest to the agreed 1279 tonnes, based on the ICES Technical Service, is the scenario based on saithe being fished in line with its single-stock advice, which would result in cod catches of 1319 tonnes in 2022.

The TACs for saithe were indeed set in line with the single-stock advice for saithe (49614 tonnes).[43] If the saithe TACs were fully exhausted, the agreed West of Scotland cod TAC of 1279 tonnes would therefore be overshot by 40 tonnes. This means that the saithe TAC, albeit in line with the single-stock advice for saithe, is not compatible with the final West of Scotland TAC (which itself already exceeds the advice): if fully exhausted, the saithe TAC would lead to a further overshoot of the final cod TAC. Note that based on the catch data presented in the ICES Technical Service, the actual cod catches of 1583 tonnes have exceeded the TAC of 1279 tonnes in 2020 by 24%, the most recent year this information is available for.[44] This shows that the TAC has not been respected and it has not effectively limited the catches.

TACs exceeding the best available scientific advice in line with the precautionary approach of Article 2(2) of the CFP Basic Regulation

The Council set a number of EU-only TACs exceeding the precautionary advice provided by ICES, including for example southern hake (HKE/8C3411), pollack in the Bay of Biscay and Atlantic Iberian waters (POL/8ABDE., POL/08C. and POL/9/3411), Norway lobster in functional units 28 and 29 (part of NEP/9/3411), common sole (SOL/7BC.) and Kattegat cod (COD/03AS.). All of these stocks are data-limited (stock status and exploitation rate in relation to biological reference points are unknown) and subject to precautionary (and not MSY-based) scientific advice.

The stocks in this category have the following aspects in common:

- They are EU-only stocks, with the final TACs included in the Contested Act;
- With the exception of Kattegat cod, the scientific advice is not for zero catches, and they are targeted or at least not subject to a by-catch only TAC, i.e. could potentially be targeted under the relevant TACs; and
- With the exception of common sole and Kattegat cod they are covered explicitly under Article 1(1) of the Western Waters Regulation.

Three of the above stocks (southern hake, pollack in the Bay of Biscay and Atlantic Iberian waters, and Kattegat cod) are presented in more detail below.

[42] *Ibid.,* p. 2.
[43] North Sea saithe falls under the trilateral negotiations between the EU, the UK and Norway. The TAC for the North Sea, POK/2C3A4, was set at 44950 t, and the TAC for area 6 and UK and international waters of 5b, 12 and 14, POK/56-14), was set at 4664, i.e. 49614 t in total, in line with the headline advice for saithe (ICES stock code pok.27.3a46): ICES (2021): Saithe (Pollachius virens) in subareas 4 and 6, and in Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7827.
[44] ICES (2021): EU standing request on catch scenarios for zero TAC stocks 2021; cod (Gadus morhua) in Division 6.a (West of Scotland) and whiting (Merlangius merlangus) in Division 7.a (Irish Sea). ICES Advice: Special Requests. Report. https://doi.org/10.17895/ices.advice.8218. The latest catch estimate for 2020, of 1583 t, is provided in Table 1, p. 2.

Southern hake (HKE/8C3411)

Table 4. Overview of the stock situation of southern hake and information regarding the level at which the 2022 TAC was set, and its implications.

ICES headline advice	Agreed 2022 TAC	Stock and exploitation status	2022 TAC compared to other catch scenarios[45]	2022 TAC versus recent SSB estimate	Projected SSB increase
6947 t	7836 t	Unknown; relative biomass is near the middle of the time series and decreasing	The TAC represents an 8% cut compared to the 2021 TAC and is between the "hke" (6947 t) and the "meg" (9921 t) scenarios from the mixed fisheries considerations; the levels at which the TACs for anglerfish and megrim were set are projected to result in hake catches far above the agreed TAC for hake (i.e. 29611 t of hake for the "mon" scenario, and between 9921 and 17264 t of hake for the "meg" and "ldb" scenarios)	Unknown	Unknown

As the ICES advice shows,[46] "*the stock size and fishing pressure status relative to candidate reference points is unknown"* for this stock, but the relative biomass has been decreasing in recent years (Figure 4). Southern hake is data-limited and the precautionary approach therefore applies. The precautionary headline advice of 6947 tonnes is the only catch option presented in the ICES advice.[47] The Council however fixed the TAC for this stock at 7836 tonnes for 2022. This TAC clearly exceeds ICES headline advice.

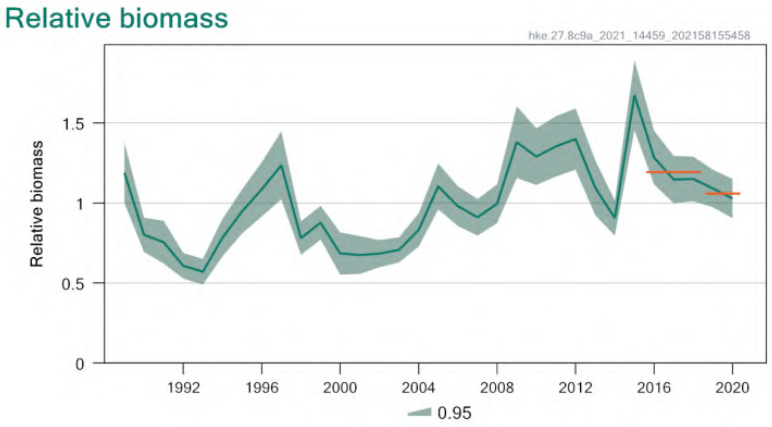


Figure 4. Time series of the relative biomass of southern hake, based on the most recent ICES advice. Biological reference points are not available for this stock.

[45] ICES (2021). Iberian waters - mixed-fisheries considerations. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.9183.The scenarios referred to in this column are presented in Table 3 of these mixed fisheries considerations.
[46] ICES stock code "hke.27.8c9a", ICES (2021): Hake (Merluccius merluccius) in divisions 8.c and 9.a, Southern stock (Cantabrian Sea and Atlantic Iberian waters). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7776.
[47] *Ibid*., p. 1.

The TAC for southern hake has been set above the ICES headline advice for the majority of the time series since 1987, with the exception of 1999, 2002 and 2012. Even when the advice was zero from 2003 to 2009, the TAC was still set above 5900 tonnes. In recent years the TAC has decreased but it still exceeds the headline ICES advice.

Southern hake is explicitly listed under Article 1(1)(20) of the Western Waters Regulation, and is thus to be managed in line with the provisions of Article 4 of the same Regulation on F_{MSY} ranges as well as in line with the safeguards specified in Article 8. However, since the stock is data-limited and F_{MSY} ranges are not available, according to Article 4(6) it must be managed in line with Article 5 until such ranges are available.

Article 4(6) of the Western Waters Regulation says that "*Where ranges of F_{MSY} cannot be determined for a stock listed in Article 1(1) because of a lack of adequate scientific information, that stock shall be managed in accordance with Article 5 until ranges of F_{MSY} are available pursuant to paragraph 2 of this Article".*

Article 5 of the Western Waters Regulation prescribes that:

- Management measures *"including, where appropriate, fishing opportunities shall be set taking into account the best available scientific advice and shall be consistent with the objectives laid down in Article 3"; and*
- Stocks *"shall be managed under the precautionary approach to fisheries management (…) when no adequate scientific information is available, and in accordance with Article 3(5) of this Regulation".*

Article 3(5) of the Western Waters Regulation specifies that *"measures under the plan shall be taken in accordance with the best available scientific advice. Where there is insufficient data, a comparable degree of conservation of the relevant stocks shall be pursued."*

This explicit reference to Article 3(5) emphasises the need to take measures "*in accordance with the best available scientific advice*", and to pursue "*a comparable degree of conservation of the relevant stocks*" where there is insufficient data. The "*best available scientific advice*" for the purposes of TAC-setting for data-limited stocks is the precautionary headline advice provided by ICES, in this case 6947 tonnes, which the TAC of 7836 tonnes set by the Council in the Contested Act exceeded by 13%.

Southern hake is both targeted and caught alongside other stocks in mixed fisheries, for example in trawls. The mixed fisheries considerations provided by ICES for Iberian waters include other species like black-bellied and white anglerfish, megrim and four-spot megrim.[48] The TAC for both anglerfish species (ANF/8C3411) was set at 3868 tonnes, i.e. in line with the sum of their single-stock headline advice of 1969 tonnes (black-bellied anglerfish)[49] and 1899 tonnes (white anglerfish),[50] respectively. This is closest to the "mon" scenario (1991 tonnes for black-bellied anglerfish and 1899 tonnes for white anglerfish), which would correspond to a projected catch of southern hake of 29611 tonnes.[51] This is more than 3.5 times the agreed hake TAC of 7836 tonnes, meaning that if the anglerfish TAC is fully exhausted, the southern hake TAC would be considerably overshot. In turn, the "hke" scenario which follows the single-stock advice for hake

[48] ICES (2021). Iberian waters - mixed-fisheries considerations. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.9183.
[49] ICES stock code "mon.27.8c9a", ICES (2021). Black-bellied anglerfish (Lophius budegassa) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, ank.27.8c9a. https://doi.org/10.17895/ices.advice.7725.
[50] ICES stock code "ank.27.8c9a", ICES (2021). White anglerfish (Lophius piscatorius) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, mon.27.8c9a. https://doi.org/10.17895/ices.advice.7793.
[51] ICES (2021). Iberian waters - mixed-fisheries considerations. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.9183. Table 3, column "mon", rows for "ank.28.8c9a", "mon.27.8c9a" and "hke.27.8c9a".

(6947 tonnes) would allow for only 935 tonnes of anglerfish to be caught (463 tonnes for black-bellied and 472 tonnes for white anglerfish), i.e. only 25% of the agreed anglerfish TAC.[52]

Similarly, the megrim TAC (LEZ/8C3411) was also set in line with the sum of the single-stock headline F_{MSY} advice for both stocks (1892 + 553 = 2445 tonnes).[53,54] This is between the "meg" (1309 + 553 tonnes) and "ldb" (1892 + 598 tonnes) scenarios, and would be associated with between 9921 tonnes (with the "meg" scenario) and 17264 tonnes (with the "ldb" scenario) of hake catches.[55] This means that, like for the anglerfish, if the megrim TAC is fully exhausted, this would result in a substantial overshoot of the agreed southern hake TAC. In turn, the "hke" scenario would only allow for 1135 tonnes of megrim (334 tonnes for megrim and 801 tonnes for four-spot megrim) to be caught, i.e. less than half of the agreed megrim TAC.

This failure to prioritise the protection of the most limiting stock in the fishery – southern hake – when setting TACs for other stocks in the mixed fishery is contrary to the implementation of an ecosystem-based approach to fisheries management as required by Article 2(3) of the CFP Basic Regulation, as well as the precautionary approach, given the data limitation around the hake stock.

Pollack in the Bay of Biscay and Atlantic Iberian waters (POL/8ABDE., POL/08C. and POL/9/3411)

Table 5. Overview of the stock situation of pollack in the Bay of Biscay and Atlantic Iberian waters and information regarding the level at which the 2022 TACs were set, and the implications.

ICES headline advice	Agreed 2022 TAC	Stock and exploitation status	2022 TAC compared to other catch scenarios[56]	2022 TAC versus recent SSB estimate	Projected SSB increase
905 t	1851 t (1482 + 166 + 203)	Unknown	The TAC represents a rollover of the 2021 TAC, i.e. seems to be geared towards a status quo in catches; the nearest mixed fisheries scenario is the "nep" scenario (1786 t)	Unknown	Unknown

According to the ICES advice for this stock,[57] "*ICES cannot assess the stock and exploitation status relative to […] reference points because the information needed to define reference points is not available"*. Pollack in the Bay of Biscay and Atlantic Iberian waters is data-limited and the precautionary approach therefore applies. The precautionary headline advice of 905 tonnes is the only catch option presented in the ICES advice. The Council however fixed the three EU-only TACs referring to this stock at a sum of 1851 tonnes (1482 + 166 + 203 tonnes) for 2022. These TACs clearly exceed ICES headline advice. Moreover, they correspond to a rollover of the 2021 TACs and are therefore geared towards maintaining the status quo of catches, rather than any kind of progress towards following the best available scientific advice.

[52] *Ibid*., Table 3, column "hke", rows for "ank.27.8c9a" and "mon.27.8c9a".
[53] ICES stock code "ldb.27.8c9a", ICES (2021): Four-spot megrim (Lepidorhombus boscii) in divisions 8.c and 9.a (southern Bay of Biscay and Atlantic Iberian waters East). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7781.
[54] ICES stock code "meg.27.8c9a", ICES (2021): Megrim (Lepidorhombus whiffiagonis) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, meg.27.8c9a. https://doi.org/10.17895/ices.advice.7791.
[55] ICES (2021). Iberian waters - mixed-fisheries considerations. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.9183. Table 3, columns "meg" and "ldb", rows for "ldb.27.8c9a", "meg.27.8c9a" and "hke.27.8c9a".
[56] ICES stock code "pol.27.89a", ICES (2021): Pollack (Pollachius pollachius) in Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7832. The scenarios referred to in this column are presented in Table 3 of this advice unless otherwise specified.
[57] *Ibid*., p. 1.

Pollack in the Bay of Biscay and Atlantic Iberian waters is not explicitly mentioned in Article 1(1) of the WWMAP. However, pollack by-catch alongside other stocks listed in Article 1(1) fall under Article 1(4). This includes several stocks covered by the ICES mixed fisheries considerations for the Bay of Biscay:[58] anglerfish (Article 1(1)(12));[59] northern hake (Article 1(1)(19)); megrim (Article 1(1)(10)); Norway lobster (Article 1(1)(24));[60] sole (Article 1(1)(35))[61] and whiting (Article 1(1)(18)).[62]

According to ICES, pollack is estimated to be the most limiting stock for Bay of Biscay demersal fisheries, whereas black-bellied anglerfish is the least limiting.[63] The final anglerfish TACs (ANF/07. and ANF/8ABDE.) as included in the agreed written record and in the Commission's proposal for first amendment of the Contested Act were set close to the sum of the single-stock advice for both anglerfish stocks, at 52205 tonnes (41173 + 11032 tonnes) compared to the advice of 52936 tonnes (34275 + 18661 tonnes). This is between the "nep" scenario (17795 + 35841 = 53636 tonnes) and the "hke" scenario (16015 + 33661 = 49676 tonnes), with corresponding pollack catches of between 1786 tonnes ("nep" scenario) and 1421 tonnes ("hke" scenario).[64] The Norway lobster TAC (NEP/8ABDE.) was set in line with the headline advice of 3880 tonnes (for landings, corresponding to catches of 6075 tonnes), with corresponding pollack catches of 1786 tonnes.[65] The sole TAC (SOL/8AB.) was set in line with the headline advice of 2233 tonnes which is between the "pol" (1612 tonnes) and the "hom" (2542 tonnes) scenarios, and would correspond to catches of pollack between 905 tonnes ("pol") and 1393 tonnes ("hom").[66] The whiting TAC (WHG/08.) was set in line with the headline advice of 2276 tonnes, which is between the "sq_E" (1864 tonnes) and "ank" (2833 tonnes) scenarios, with corresponding pollack catches between 1540 tonnes ("sq_E") and 2351 tonnes ("ank").

The projected pollack catches associated with the levels at which the TACs for anglerfish, Norway lobster, sole and whiting were set seem to be largely compatible with the agreed pollack TAC, but still exceed the single-stock pollack advice. The Council's decision to set the TACs for other stocks caught in the same fishery at levels that would result in pollack catches above the headline advice for pollack (and for whiting, possibly even above the agreed pollack TACs) is contrary to the implementation of an ecosystem-based approach to fisheries management as required by Article 2(3) of the CFP Basic Regulation, as well as the precautionary approach, given the data limitation around the pollack stock.

As a stock falling under Article 1(4) of the Western Waters Regulation, pollack is subject to the provisions in Article 5 of the same regulation. According to Article 5(1) "*fishing opportunities shall be set taking into account the best available scientific advice and shall be consistent with the objectives laid down in Article 3*". According to Article 5(2) the stock "*shall be managed under the precautionary approach to fisheries management […] and in accordance with Article 3(5) of this Regulation*". Said Article 3(5) in turn reiterates the need to take measures under the plan "*in accordance with the best available scientific advice*" and requires that "*[w]here there is insufficient data, a comparable degree of conservation of the relevant stocks shall be pursued*".

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[58] ICES (2021). Bay of Biscay– mixed-fisheries considerations. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.9182.

[59] This includes two stocks: ICES stock code "ank.27.78abd": ICES (2021): Black-bellied anglerfish (Lophius budegassa) in Subarea 7 and divisions 8.a–b and 8.d (Celtic Seas, Bay of Biscay). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7724; ICES stock code "mon.27.78abd": ICES (2021): White anglerfish (Lophius piscatorius) in Subarea 7 and divisions 8.a–b and 8.d (Celtic Seas, Bay of Biscay). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7792.

[60] ICES stock code "nep.fu.2324": ICES (2021): Norway lobster (Nephrops norvegicus) in divisions 8.a and 8.b, functional units 23–24 (northern and central Bay of Biscay). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7804

[61] ICES stock code "sol.27.8ab": ICES (2021): Sole (Solea solea) in divisions 8.a–b (northern and central Bay of Biscay). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.9443

[62] ICES stock code "whg.27.89a": ICES (2021): Whiting (Merlangius merlangus) in Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.7889

[63] *Ibid.*, p. 1.

[64] *Ibid.*, Table 3, p. 4, columns "nep" and "hke" and rows for "ank.27.78abd", "mon.27.78abd" and "pol.27.89a".

[65] *Ibid.*, Table 3, p. 4, column "nep" and row for "nep.fu.2324" and "pol.27.89a".

[66] *Ibid.*, Table 3, p. 4, columns "pol" and "hom" and row for "sol.27.8ab" and "pol.27.8ab".

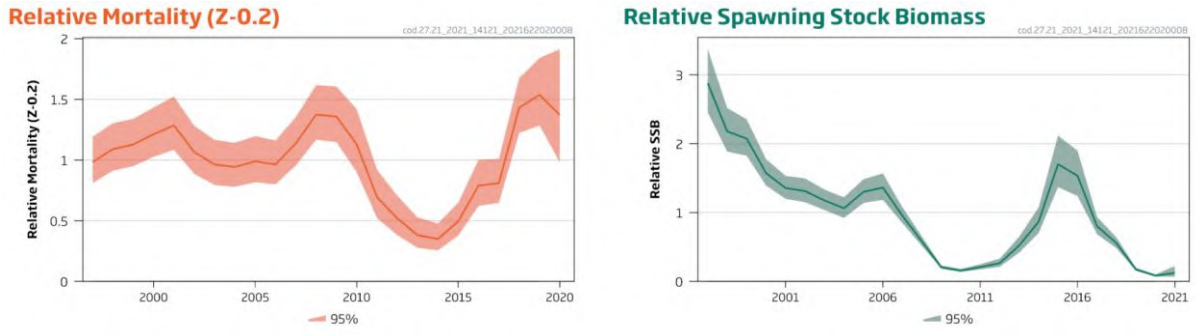
In conclusion, the Council's decision to set the pollack TAC above the best available scientific advice based on the precautionary approach is contrary not only to Article 2(2) of the CFP Basic Regulation, but also to the above-mentioned provisions in Article 5 of the WWMAP.

Kattegat cod (COD/03AS.)

Table 6. Overview of the stock situation of Kattegat cod and information regarding the level at which the 2022 TAC was set, and its implications.

ICES headline advice	Agreed 2022 TAC	Stock and exploitation status	2022 TAC compared to other catch scenarios[67]	2022 TAC versus recent SSB estimate	Projected SSB increase
0 t	97 t	Unknown; relative mortality is high, the relative SSB near the historical minimum	The TAC equals the level of the most recent catch estimated for 2020, i.e. seems to be geared towards maintaining the status quo. There is an additional allowance under a footnote for vessels participating in REM trials. The cod by-catch projected to result from the agreed TAC for Norway lobster is far above the agreed Kattegat cod TAC.[68]	Unknown	Unknown

According to the ICES advice for this stock,[69] "*ICES cannot assess the stock and exploitation status relative to […] reference points because the reference points are undefined",* but the relative biomass is *"considered to be below possible biomass reference points"*. As Figure 5 shows, the relative biomass is near the historical minimum, whereas the relative mortality is near the historical high. Kattegat cod is data-limited and the precautionary approach therefore applies. The precautionary headline advice of zero catch is the only catch option presented in the ICES advice.[70] The Council however fixed the TAC for Kattegat cod at 97 tonnes for 2022. This TAC clearly exceeds ICES headline advice.



[67] ICES stock code "cod.27.21": ICES (2021): Cod (Gadus morhua) in Subdivision 21 (Kattegat). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.7743.
[68] ICES (2021): EU standing request on catch scenarios for zero-TAC stocks: cod (Gadus morhua) in Subdivision 21 (Kattegat). ICES Advice: Special Requests. Report. https://doi.org/10.17895/ices.advice.8217. The Norway lobster TAC was set in line with the projected landings associated with the $F_{MSY\ lower}$ scenario (8501 which corresponds to 10241 t for catches, assuming recent discard rates). According to ICES, cod accounts for 4% of catches in Norway lobster fishery. This corresponds to cod catches of between 340 t and 410 t (depending on the level of discarding of Norway lobster, i.e. whether total catches are limited to 8501 t, or discarding continues beyond this under exemptions).
[69] ICES stock code "cod.27.21": ICES (2021): Cod (Gadus morhua) in Subdivision 21 (Kattegat). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.7743. P. 1.
[70] *Ibid.*, p. 1.

Figure 5. Time series of the relative mortality and relative spawning stock biomass of Kattegat cod, based on the most recent ICES advice. Biological reference points are not available for this stock.

As identified in the ICES advice, Kattegat cod is an EU-only stock whose TACs have been set above ICES advice for the majority of the time since 1989, with the exception of 1994 and 1995. The advice has been for zero catch since 2002 and has never been followed.

Kattegat cod is primarily caught as a by-catch in the fishery for Norway lobster. Norway lobster in area 3a, which includes the Kattegat, is covered by Article 1(1)(j) of the North Sea Regulation. The North Sea Regulation says that "*this Regulation also applies to by-catches caught in the North Sea when fishing for the stocks listed in the first subparagraph of paragraph 1*". Therefore, Kattegat cod as a by-catch of Norway Lobster in area 3a is covered by Article 1(4) of the North Sea Regulation.

Article 5 of the North Sea Regulation, on the management of by-catch, prescribes that:

- Management measures for stocks referred to in Article 1(4), *"including, where appropriate, fishing opportunities, shall be set taking into account the best available scientific advice and shall be consistent with the objectives laid down in Article 3"; and*
- Those stocks *"shall be managed under the precautionary approach to fisheries management (…) when no adequate scientific information is available".*

Despite the requirement of both Article 2(2) of the CFP Basic Regulation and Article 5 of the North Sea Regulation to apply the precautionary approach, and despite the biomass index indicating that the stock is at or near its lowest historical level, the Council agreed on a TAC that exceeds the precautionary scientific ICES headline advice of zero catch. The agreed by-catch TAC of 97 tonnes appears to be geared towards maintaining the status quo for catches.[71]

In conclusion, the Council did not respect the objectives set in Article 2 of the CFP Basic Regulation and Articles 3 and 5 of the North Sea Regulation when setting the TAC for Kattegat cod.

Finally, the TAC set by the Council for Norway lobster, if fully exhausted, is projected to result in a considerable overshoot of the agreed Kattegat cod by-catch TAC, as outlined below.

According to the ICES advice for Kattegat cod, "*cod is mainly taken as bycatch in the Norway lobster fishery*", which "*implies that the fishing mortality of the stock is linked to effort directed to the Norway lobster fishery*".[72] "*Discards are high*", and gears "*that successfully reduce cod bycatches in flatfish catches*" are "*not in use at present*". The additional Technical Service provided by ICES regarding additional catch scenarios for 2022 confirms that the majority (92%) of cod catches come from the Norway lobster fishery and that cod catches account for 4% of the total catches in that fishery.[73] This is much higher than the 1.5% found with the Swedish sorting grid,[74] indicating that further selectivity improvements should be possible.

The catch advice for Norway lobster is based on a F_{MSY} range between 10241 tonnes and 14449 tonnes,[75] and the 2022 TAC was set at 8501 tonnes, which is the projected landings associated with the $F_{MSY\ lower}$ scenario (10241 tonnes for total catches, based on recent discard rates). Assuming 4% of the catches in this fishery are Kattegat cod (as indicated by the ICES Technical

[71] *Ibid.,* Table 4, p. 4: the by-catch TAC was set at the same level as specified for the latest catch estimate for 2020, 97 t.
[72] *Ibid*., p. 2.
[73] ICES (2021). EU standing request on catch scenarios for zero-TAC stocks: cod (Gadus morhua) in Subdivision 21 (Kattegat). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.8217. Table 1, p. 2, row for "OTB_CRU",column "Cod percentage of total catches (%)".
[74] *Ibid*., p. 2.
[75] ICES stock code "nep.fu.3-4": ICES (2021). Norway lobster (Nephrops norvegicus) in Division 3.a, functional units 3 and 4 (Skagerrak and Kattegat). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.7807.

Service),[76] this would mean 410 tonnes of Kattegat cod are expected to be caught in 2022 in the Norway lobster fishery if the Norway lobster TAC is fully exhausted (assuming that 8501 tonnes are landed and the rest continues to be discarded, for example under exemptions from the landing obligation,[77] and that the selectivity for cod does not improve).[78] Even if only 8501 tonnes of Norway lobster were caught overall and there was no discarding beyond that, it would still result in a cod bycatch of 340 tonnes.[79] This is several times more than the agreed Kattegat cod by-catch TAC of 97 tonnes. If the Norway lobster TAC were fully exhausted, this would therefore lead to a considerable overshoot of the Kattegat cod TAC which itself already exceeds the scientific advice.

As a result of the above, the Council also failed to respect the ecosystem-based approach to fisheries management, a fundamental objective of the CFP enshrined at Article 2(3) of the CFP Basic Regulation and Article 3(3) of the North Sea Regulation.

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[76] ICES (2021). EU standing request on catch scenarios for zero-TAC stocks: cod (Gadus morhua) in Subdivision 21 (Kattegat). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021. https://doi.org/10.17895/ices.advice.8217. Table 1, p. 2, row for "OTB_CRU",column "Cod percentage of total catches (%)".

[77] For example, Article 3 of Commission Delegated Regulation (EU) 2020/2014 of 21 August 2020 provides for a number of "survivability exemptions" from the landing obligation for Norway lobster, meaning that discarding of Norway lobster in the specified fisheries under such exemptions can legally continue. Since there is no absolute limit on the potential discarding level under a survivability exemption, this means that, assuming no change in discard levels, a TAC of 8501 t (corresponding to the ICES projected landings for the $F_{MSY\ lower}$ scenario) could be associated with discards of up to 1740 t (i.e. the difference between the ICES total catch advice of 10241 t for the $F_{MSY\ lower}$ scenario, and the corresponding projected landings of 8501 t). If this is the case, then up to 10241 t of Norway lobster catches would be legally possible under the TAC of 8501 t.

[78] The Norway lobster TAC of 8501 t corresponds to the projected landings for the $F_{MSY\ lower}$ scenario of 10241 t catches. Assuming that the TAC is fully exhausted and the discard rate remains the same (i.e. 8501 t of Norway lobster are landed and the remaining 10241 t - 8501 t = 1740 t are discarded), and assuming selectivity for cod remains the same (i.e. 4% cod by-catch of the whole catch in that fishery), this would result in 0.04 * 10241 t = 410 t of cod by-catch.

[79] 4% of 8501 t = 0.04 * 8501 t = 340 t.