ICES International Council for the Exploration of the Sea
CIEM Conseil International pour l'Exploration de la Mer

Advisory Committee

3 July 2017

2017 ACOM and ACOM Expert Group ToR's

Contents

Advisory Committee

2016/2/ACOM01 The **Advisory Committee** (ACOM), chaired by Eskild Kirkegaard will work on the following tasks:

a) Meet in plenary in Copenhagen, 28 November to 1 December, 2017 to:
   i) Review directions and guidelines provided by Council, Bureau and client requests for information and advice;
   ii) Review the performance of the advisory function in 2017 and agree on remedial actions as appropriate;
   iii) Review the implementation of the Advice Plan including the ACOM Work-plan for 2017;
   iv) Review progress on Advisory Services in 2017;
   v) Review recommendations to ACOM and agree on actions as appropriate;
   vi) Finalise the 2018 advisory work-plan;
   vii) Agree on the 2018 ACOM work-plan;
   viii) Review guidelines for the advisory work and amend as appropriate
   ix) Consider research needs as input to the Scientific Committee and to the European Commission; and provide advice and guidance on future scientific needs and priorities related to the work of ACOM
b) Work by correspondence (web conferences) according to the work-plans, *inter alia* to adopt advice;
c) Hold Consultations at national expense in Fort Lauderdale, USA in September 2017 during the ASC Meeting to:
   i) Discuss the 2018 work-plan including Terms of Reference, dates and venues for groups to be involved in the advisory process in 2018;
   ii) Conduct other business related to the functioning of ACOM.

Supporting Information

Priority:	High.
Scientific Justification and relation to Action Plan:	Benchmark workshops will be held to peer review data and assessment methods. Expert groups will analyze the available information, develop draft advice, and audit that the stock annex has been applied. Advice drafting groups will develop the draft advice text for adoption by ACOM.
Resource Requirements:	
Participants:	Chair, Vice-Chairs, and nationally nominated, *ex officio* members and Chairs of joint ACOM/SCICOM Steering Groups. Chairs of the Expert groups with advisory tasks are invited to the ACOM Consultations in September. The ACOM Chair may invite experts to the September Consultations and the November Plenary meeting as appropriate.
Observers	Recipients of advice, Observers to the advisory process
Secretariat Facilities:	The ACOM Plenary meeting will normally be held at ICES HQ to benefit from WebEx facilities and full Secretariat support
Financial:	Included in the Secretariat budget

Linkages to other Committees or Groups:	SciCom (including Steering Groups) on research needs, Council, Bureau
Linkages to other Organisations:	EC (DG MARE, DG ENV), HELCOM, OSPAR, AMAP, NASCO, NEAFC, JNRFC, ICCAT, GFCM, ICES Member Countries

MIRIA – Meeting between ICES and Recipients of ICES Advice

2016/2/ACOM02 ICES will invite recipients of ICES advice (Partner Commissions, governments) to meet with the ACOM leadership, chaired by ACOM Chair, Eskild Kirkegaard, 17–18 January 2017 to:

a) Review the performance of the ICES advisory system in 2016 and discuss issues and concerns arising since the 2016 MIRIA meeting

b) Discuss the coordination and availability of expert resources for ICES advisory work;

c) Discuss ICES benchmark system;

d) Review the plan for further development of ICES advisory framework in relation to the MSY-approach, mixed fisheries advice, landing obligation/discard ban, fisheries and ecosystem overviews and ecosystem based management;

e) Discuss reference points used in ICES advice and the process for updating them;

f) Discuss policy developments of relevance to ICES advice;

g) Discuss the basis for ICES advice in relation to fisheries management strategies/plans and agreed environmental policy measures;

h) Discuss the frequency of advice and criteria for updating fish stocks advice;

i) Provide information on and discuss the Workplan for ICES advice in 2017 including issues of timing, transparency, and quality assurance;

j) Any other issues regarding future ICES advice as raised by the advice recipients

MIRIA will report by 6 February 2017 for the attention of the Advisory Committee.

MIACO – Meeting between ICES, Advisory Councils and other Observers

2016/2/ACOM03 ICES will invite the Advisory Councils (ACs) and other ICES observer organizations to meet with the ACOM leadership, chaired by ACOM Chair, Eskild Kirkegaard, at ICES Headquarters 19–20 January 2017 to:

a) Invite ACs/observers to report on their experience of working with ICES during 2016 and to present their research and advisory needs, and discuss ICES' experience of participating in AC meetings in 2016;

b) Review progress on following up of action points from the 2016 MIACO meeting;

c) Discuss practical arrangements in 2017 for cooperation between ACs/observers and ICES, including procedures for delivering and discussion of the ICES advice;

d) Discuss ICES benchmark system and how stakeholder information can be brought into ICES advisory process;

e) Discuss the plan for further development of ICES advisory framework in relation to MSY-approach, mixed fisheries advice, landing obligation/discard ban, fisheries and ecosystem overviews and ecosystem based management;

f) Discuss options for further development of the accessibility of ICES advice.

MIACO will report 6 February 2017 for the attention of the Advisory Committee.

WGCHAIRS – Annual Meeting of Advisory Working Group Chairs

2016/2/ACOM04 The **Annual Meeting of the Chairs of Working Groups supporting the Advisory process** (WGCHAIRS), chaired by ACOM Chair, Eskild Kirkegaard, will meet in ICES HQ, Copenhagen, Denmark, 23–25 January 2017 to:

a) Review the performance of ICES advisory system in 2016;

b) Review the expert group work in support of ICES advice in 2017 including reviewing the requests for advice, balance between workload and available resources, the support from the ICES Secretariat and advice on actions to enhance the work as appropriate;

c) Review the current advisory process including possible revision of the benchmark system;

d) Update on inputs from the recipients of advice (MIRIA) and stakeholders (MIACO) regarding ICES advice;

e) Review developments in the basis and framework for advice;

f) Discuss the Transparent Assessment Framework (TAF).

WGCHAIRS will report by 13 February 2017 for the attention of ACOM.

Fisheries related Expert Groups

Generic ToRs for Regional and Species Working Groups

2016/2/ACOM05 The following ToRs apply to: AFWG, HAWG, NWWG, NIPAG, WGWIDE, WGBAST, WGBFAS, WGNSSK, WGCSE, WGDEEP, WGBIE, WGEEL, WGEF, WGHANSA and WGNAS.

The working group should focus on:

a) Consider and comment on ecosystem and fisheries overviews where available;

b) For the aim of providing input for the Fisheries Overviews, consider and comment for the fisheries relevant to the working group on:

   i) descriptions of ecosystem impacts of fisheries

   ii) descriptions of developments and recent changes to the fisheries

   iii) mixed fisheries overview, and

   iv) emerging issues of relevance for the management of the fisheries;

c) Conduct an assessment to update advice on the stock(s) using the method (analytical, forecast or trends indicators) as described in the stock annex and produce a brief report of the work carried out regarding the stock, summarising where the item is relevant:

   i) Input data and examination of data quality;

   ii) Where misreporting of catches is significant, provide qualitative and where possible quantitative information and describe the methods used to obtain the information;

   iii) For relevant stocks (i.e., all stocks with catches in the NEAFC area) estimate the percentage of the total catch that has been taken in the NEAFC Regulatory Area in the last year.

   iv) The developments in spawning stock biomass, total stock biomass, fishing mortality, catches (wanted and unwanted landings and discards) using the method described in the stock annex;

   v) The state of the stocks against relevant reference points;

   vi) Catch options for next year;

   vii) Historical performance of the assessment and catch options and brief description of quality issues with these;

d) Produce a first draft of the advice on the fish stocks and fisheries under considerations according to ACOM guidelines.

e) Review progress on benchmark processes of relevance to the expert group;

f) Prepare the data calls for the next year update assessment and for the planned data evaluation workshops;

g) Identify research needs of relevance for the expert group.

Information of the stocks to be considered by each Expert Group is available here.

AFWG – Arctic Fisheries Working Group

2016/2/ACOM06 The **Arctic Fisheries Working Group** (AFWG), chaired by Daniel Howell*, Norway, will meet at ICES Headquarters, Copenhagen, Denmark, 19–25 April 2017:

a) Address generic ToRs for Regional and Species Working Groups, for all stocks except the Barents Sea capelin;

b) For Barents Sea capelin oversee the process of providing intersessional assessment;

c) In preparation for the benchmark on anglerfish stocks, compile data for anglerfish in Subarea IIa.

d) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).
   a. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;
   b. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
cod-coas	Cod (*Gadus morhua*) in subareas 1 and 2 (Norwegian coastal waters cod)	AFWG	3

and by correspondence in September/October to:

e) Address generic ToRs for Regional and Species Working Groups for the Barents Sea capelin stock.

The assessments will be carried out on the basis of the stock annex in National Laboratories, prior to the meeting. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 6 April.

AFWG will report by 11 May 2017 and 6 October 2017 for Barents Sea capelin for the attention of ACOM.

HAWG – Herring Assessment Working Group for the Area South of 62ºN

2016/2/ACOM07 The **Herring Assessment Working Group for the Area South of 62ºN** (HAWG), chaired by Niels Hintzen, the Netherlands, will meet at ICES Headquarters for two meetings: 18–20 January, 2017 to:

a) Compile the catch data of sandeel in assessment areas 1-7 and address generic ToRs for Regional and Species Working Groups that are specific to sandeel stocks in the North sea ecoregion;

and 14–22 March 2017 to:

b) compile the catch data of North Sea and Western Baltic herring on 14–15 March;

c) address generic ToRs for Regional and Species Working Groups 16-22 March for all other stocks assessed by HAWG.

d) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).

i. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;

ii. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
spr-kask	Sprat (Sprattus sprattus) in Division 3.a (Skagerrak and Kattegat)	HAWG	3.2
spr-ech	Sprat (Sprattus sprattus) in divisions 7.d and 7.e (English Channel)	HAWG	3.2

The assessments will be carried out on the basis of the Stock Annex. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 18 January for sandeel stocks and 16 March 2016 for other stocks according to the Data Call 2017.

HAWG will report by 27 January 2017 (on sandeel), and by 14 April 2017 (all stocks except sandeel) for the attention of ACOM.

NWWG – North-Western Working Group

2016/2/ACOM08 **The North-Western Working Group (NWWG),** chaired by Rasmus Hedeholm, Greenland, will meet at ICES Headquarters, 27 April – 4 May, 2017 to:

a) Address generic ToRs for Regional and Species Working Groups.

b) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).

i. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;

ii. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
smn-grl	Beaked redfish (*Sebastes mentella*) in Division 14.b, demersal (Southeast Greenland)	NWWG	3.2
smn-con	Beaked redfish (*Sebastes mentella*) in Subarea 14 and Division 5.a, Icelandic slope stock (East of Greenland, Iceland grounds)	NWWG	3.2
cod-segr	Cod (*Gadus morhua*) in ICES Subarea 14 and NAFO Division 1.F (East Greenland, South Greenland)	NWWG	3.3
cod-wgr	Cod (*Gadus morhua*) in NAFO divisions 1.A–E, offshore (West Greenland)	NWWG	3.14

Stock Code	Stock name description	EG	Data Category
cod-ingr	Cod (*Gadus morhua*) in NAFO Subarea 1, inshore (West Greenland cod)	NWWG	3.2

The assessments will be carried out on the basis of the stock annex. The assessments must be available for audit on the first day of the meeting. Material and data relevant to the meeting must be available to the group no later than 5 April 2017 according to the Data Call 2017.

The assessments will be carried out on the basis of the stock annex in National Laboratories, prior to the meeting.

NWWG will report by 17 May 2017 for the attention of ACOM..

NIPAG – Joint NAFO/ICES Pandalus Assessment Working Group

2016/2/ACOM09 The **Joint NAFO/ICES *Pandalus* Assessment Working Group** (NIPAG), chaired by Guldborg Søvik*, Norway (ICES) and Joël Vigneau, France (NAFO), will meet in Lysekil, Sweden 27 September–4 October, 2017, to:

a) Address generic ToRs for Regional and Species Working Groups.

The assessments will be carried out on the basis of the stock annex. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than XX 2017 according to the Data Call 2017.

NIPAG will report by XX 2017 on the ICES shrimp stocks for the attention of ACOM.

WGBAST – Baltic Salmon and Trout Assessment Working Group

2016/2/ACOM10 The **Baltic Salmon and Trout Assessment Working Group** (WGBAST), chaired by Stefan Palm*, Sweden, will meet in Gdansk, Poland, 27 March–4 April 2017 to:

a) Address relevant points in the Generic ToRs for Regional and Species Working Groups;

Material and data relevant for the meeting must be available to the group no later than six weeks prior to the meeting.

WGBAST will report by 12 April 2017 for the attention of ACOM.

WGBFAS – Baltic Fisheries Assessment Working Group

2016/2/ACOM11 The **Baltic Fisheries Assessment Working Group** (WGBFAS), chaired by Tomas Gröhsler, Germany and co-chaired Michele Casini, Sweden will meet at ICES Headquarters, 19–26 April 2017 to:

a) Address generic ToRs for Regional and Species Working Groups

b) Review the main result from WGIAB, WGSAM, SGSPATIAL with main focus on the biological processes and interactions of key species in the Baltic Sea;

c) Review progress of the intersessional work agreed in 2016 to improve the assessment of the Baltic cod stocks; and update as appropriate

d) Advise on how the results of the intersessional work can be applied in the assessment of the Baltic Sea cod stocks.

e) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).
    1. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;
    2. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
bll.27.22-32	Brill (*Scophthalmus rhombus*) in subdivisions 22–32 (Baltic Sea)	WGBFAS	3.2
cod.27.21	Cod (*Gadus morhua*) in Subdivision 3.a.21 (Kattegat)	WGBFAS	3.2
cod.27.25-32	Cod (*Gadus morhua*) in subdivisions 25–32, eastern Baltic stock (eastern Baltic Sea)	WGBFAS	3.2
dab.27.22-32	Dab (*Limanda limanda*) in subdivisions 22–32 (Baltic Sea)	WGBFAS	3.2
fle.27.2223	Flounder (*Platichtys flesus*) in subdivisions 22 and 23 (Belt Seas and the Sound)	WGBFAS	3.2
fle.27.2425	Flounder (*Platichtys flesus*) in subdivisions 24 and 25 (west of Bornholm and southwestern central Baltic)	WGBFAS	3.2
fle.27.2628	Flounder (*Platichtys flesus*) in subdivisions 26 and 28 (east of Gotland and Gulf of Gdansk)	WGBFAS	3.2
fle.27.2729-32	Flounder (*Platichtys flesus*) in subdivisions 27 and 29–32 (northern central and northern Baltic Sea)	WGBFAS	3.2
ple.27.24-32	Plaice (*Pleuronectes platessa*) in subdivisions 24–32 (Baltic Sea, excluding the Sound and Belt Seas)	WGBFAS	3.2
tur.27.22–32	Turbot (*Scophthalmus maximus*) in subdivisions 22–32 (Baltic Sea)	WGBFAS	3.2

The assessments will be carried out on the basis of the stock annex. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 15 March 2017 according to the Data Call 2017.

WGBFAS will report by 3 May 2017 for the attention of ACOM.

WGBIE– Working Group for the Bay of Biscay and Iberian waters Ecoregion

2016/2/ACOM12 The **Working Group for the Bay of Biscay and Iberian waters Ecoregion** [WGBIE], chaired by Lisa Readdy, UK, will meet in Cadiz, Spain, 4–11 May 2017 to:

a) Address generic ToRs for Regional and Species Working Groups;

b) Review and assess the progress on the benchmark preparation of southern hake and anglerfish stocks;

c) Analyse the data available on *Solea* species in Divisions 8.c and 9.a at a species specific level.

d) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).

i) Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;

ii) Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
Nep-2829	Norway lobster (*Nephrops norvegicus*) in Division 9.a, functional units 28–29 (Atlantic Iberian waters East and southwestern and southern Portugal)	WGBIE	3.2
Nep-30	Norway lobster (*Nephrops norvegicus*) in Division 9.a, Functional Unit 30 (Atlantic Iberian waters East and Gulf of Cadiz)	WGBIE	3.2

The assessments will be carried out on the basis of the stock annex. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 22 March 2017 according to the Data Call 2017.

WGBIE will report by 25 May 2017 for the attention of ACOM.

WGCSE – Working Group for the Celtic Seas Ecoregion

2016/2/ACOM13 The **Working Group for the Celtic Seas Ecoregion** (WGCSE), chaired by Timothy Earl, UK and Helen Dobby, Scotland, UK will meet at ICES Headquarters, Copenhagen, Denmark, 9–18 May 2017 and by correspondence September / October 2017 to:

a) Address generic ToRs for Regional and Species Working Groups;

b) Report on reopened advice if appropriate;

c) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).

i. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;

ii. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
ang-ivvi	Anglerfish (*Lophius piscatorius* and *L. budegassa*) in subareas 4 and 6, and in Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak and Kattegat)	WGCSE	3

Stock Code	Stock name description	EG	Data Category
had-iris	Haddock (*Melanogrammus aeglefinus*) in Division7.a (Irish Sea)	WGCSE	3.2
meg-rock	Megrim (*Lepidorhombus* spp.) in Division 6.b (Rockall)	WGCSE	3
ple-iris	Plaice (*Pleuronectes platessa*) in Division 7.a (Irish Sea)	WGCSE	3.2
ple-echw	Plaice (*Pleuronectes platessa*) in Division 7.e (western English Channel)	WGCSE	3.2
ple-celt	Plaice (*Pleuronectes platessa*) in divisions 7.f and 7.g (Bristol Channel, Celtic Sea)	WGCSE	3.2
ple-7h-k	Plaice (*Pleuronectes platessa*) in divisions 7h–k (Celtic Sea South, southwest of Ireland)	WGCSE	3.2
pol-celt	Pollack (*Pollachius pollachius*) in subareas 6–7 (Celtic Seas and the English Channel)	WGCSE	4.12
sol-7h-k	Sole (*Solea solea*) in divisions 7.h–k (Celtic Sea South, southwest of Ireland)	WGCSE	3.2
whg-iris	Whiting (*Merlangius merlangus*) in Division 7.a (Irish Sea)	WGCSE	3.14

The assessments will be carried out on the basis of the stock annex. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 25 April 2017 according to the Data Call 2017.

WGCSE will report by 25 May 2017 for the attention of ACOM, and by 7 October 2017 for *Nephrops* stocks, anglerfish and megrim in Rockall. Concerning ToR b) the group will report on the ACOM guidelines on reopening procedure of the advice before 12 October and will report on reopened advice before 28 October.

WGDEEP – Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources

2016/2/ACOM14 The **Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources** (WGDEEP), chaired by Pascal Lorance, France, and Gudmundur Thordarson, Iceland, will meet at ICES Headquarters, 24 April–1 May 2017 to:

a) Address generic ToRs for Regional and Species Working Groups.

b) Complete the development of Stock Annexes for all the stocks assessed by WGDEEP, based on the most recent agreed assessment.

c) Update the description of deep-water fisheries in both the NEAFC Regulatory Area and ICES area(s) by compiling data on catch/landings, fishing effort (inside versus outside the EEZs, in spawning areas, areas of local depletion, etc.), and discard statistics at the finest spatial resolution possible by ICES Subarea and Division and NEAFC Regulatory Area and describe and prepare a first Advice draft of any emerging deep-water fishery with the available data in the NEAFC Regulatory Area.

d) Continue work on exploratory assessments for deep-water species.

e) Evaluate the stock status of stocks in Icelandic waters for the provision of annual advice in 2017.

f) Evaluate the stock status of all stocks in non-EU waters for the provision of biennial advice in 2017.

g) Prepare for an evaluation of the stock status for stocks in EU waters for the provision of biennial advice due in 2018.

h) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).

   i. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;

   ii. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	2016_Description	EG	Data Category
arg-123a4	Greater silver smelt (*Argentina silus*) in subareas 1, 2, and 4, and in Division 3.a (Northeast Arctic, North Sea, Skagerrak and Kattegat)	WGDEEP	3.2
arg-5b6a	Greater silver smelt (*Argentina silus*) in divisions 5.b and 6.a (Faroes grounds and west of Scotland)	WGDEEP	3.2
arg-icel	Greater silver smelt (*Argentina silus*) in Subarea 14 and Division 5.a (East Greenland and Iceland grounds)	WGDEEP	3.3
arg-rest	Greater silver smelt (*Argentina silus*) in subareas 7–10 and 12, and in Division 6.b (other areas)	WGDEEP	3.2
bli-5a14	Blue ling (*Molva dypterygia*) in Subarea 14 and Division 5.a (East Greenland and Iceland grounds)	WGDEEP	3.3
lin-arct	Ling (*Molva molva*) in subareas 1 and 2 (Northeast Arctic)	WGDEEP	3.2
lin-faro	Ling (*Molva molva*) in Division 5.b (Faroes grounds)	WGDEEP	3.2
lin-oth	Ling (*Molva molva*) in subareas 6–9, 12, and 14, and in divisions 3.a and 4.a (other areas)	WGDEEP	3.2
usk-arct	Tusk (*Brosme brosme*) in subareas 1 and 2 (Northeast Arctic)	WGDEEP	3.2
usk-oth	Tusk (*Brosme brosme*) in subareas 4 and 7–9, and in divisions 3.a, 5.b, 6.a, and 12.b (Northeast Atlantic)	WGDEEP	3.2

The assessments will be carried out on the basis of the stock annex. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 24 March 2017 according to the Data Call 2017.

WGDEEP will report by 8 May 2017 for the attention of ACOM.

WGEEL – Joint EIFAAC/ICES/GFCM Working Group on Eels

2016/2/ACOM15 The **Joint EIFAAC/ICES/GFCM Working Group on Eels** (WGEEL), chaired by Alan Walker, (UK), will meet in Kavala, Greece, from 3–10 October 2017 to:

a) Report on developments in the state of the European eel (*Anguilla anguilla*) stock, the fisheries on it and other anthropogenic impacts
b) Produce the first draft of the ICES annual eel advice, and other advisory documents as requested
c) Report on updates to the scientific basis of the advice, including any new or emerging threats or opportunities
d) Address the generic EG ToRs from ICES, and any requests from EIFAAC or GFCM

WGEEL will report by 17 October 2017 for the attention of ACOM, WGRECORDS, SSGEF and FAO, EIFAAC and GFCM.

Supporting Information

Priority	1. The status of the European eel stock remains outside safe biological limits and continuing and further management actions are required to recover the stock. 2. The present stock status assessment is based on recruitment time series, which have no predictive power and therefore cannot be used to identify the most effective way to recover to stock nor the time scale over which recovery might be achieved. Therefore, the development and application of further status assessment methods are urgently required. 3. The EU Regulation (EC 1100/2007) obliges EU Member States to report national stock indicators, to take management measures and to report progress. Non-EU countries have no such legal obligation, but the same aspirations are necessary to provide a whole-stock assessment and management. The Working Group continues to provide EIFAAC, ICES and the GFCM countries with support in implementing and improving such actions. 4. The EU has requested annually recurring scientific advice on the European eel because the EU "has adopted or may adopt rules for the protection of anadromous and catadromous species (such as eels or salmon), including for the non-marine part of their life cycle", as described in the 2016 MoU between the EU and ICES. Specifically for eel, the advice is sought in support of the Eel Regulation (EC 1100/2007).
Scientific justification	European eel life history is complex and atypical among aquatic species. The stock is genetically panmictic and data indicate random arrival of adults in the spawning area. The continental eel stock is widely distributed and there are strong local and regional differences in population dynamics and local stock structures. Fisheries on all continental life stages take place throughout the distribution area. Local impacts by fisheries vary from almost nil to heavy overexploitation. Other forms of anthropogenic mortality (e.g. hydropower, pumping stations) also impact on eel and vary in distribution and local relevance. Most but not all EU Member States reported quantitative estimates of the required stock indicators to the EU in 2012, and 2015. The reliability and

	accuracy of these data have not yet been fully evaluated. Furthermore, the stock indicators of some non-European countries within the natural range of the European eel are lacking.
Resource requirements	Sharepoint
Participants	EIFAAC, ICES and GFCM Working Group Participants, Invited Country Administrations, EU representative, Invited specialists
Secretariat facilities	Support to organize the logistics of the meeting.
Financial	At countries expense
Linkages to advisory committees	ACOM
Linkages to other committees or groups	WGRECORDS, SCICOM, SSGEF
Linkages to other organizations	FAO EIFAAC, GFCM, EU DG-MARE, EU DG-ENV

WGEF – Working Group on Elasmobranch Fishes

2016/2/ACOM16 The **Working Group on Elasmobranch Fishes** (WGEF), chaired by Paddy Walker*, Netherlands and Sam Shephard*, Ireland, will meet in Lisbon, Portugal, from 31 May to 07 June 2017 to:

a) Address generic ToRs for Regional and Species Working Groups;

b) Update the description of elasmobranch fisheries for deep-water, pelagic and demersal species in the ICES area and compile landings, effort and discard statistics by ICES Subarea and Division, and catch data by NEAFC Regulatory Area. Describe and prepare a first Advice draft of any emerging elasmobranch fishery with the available data on catch/landings, fishing effort and discard statistics at the finest spatial resolution possible in the NEAFC RA and ICES area(s);

c) Evaluate the stock status for the provision of biennial advice due in 2017 for (i) skate stocks in the North Sea ecoregion; (ii) skate stocks in the Azores and MAR; (iii) catsharks (*Scyliorhinidae*) in the Greater North Sea, Celtic Seas and Bay of Biscay and Iberian Coast ecoregions; (iv) smooth-hounds in the Northeast Atlantic and (v) tope in the Northeast Atlantic;

d) Conduct exploratory analyses and collate relevant data in preparation for the evaluation of other stocks (spurdog, and skates in the Celtic Seas and Bay of Biscay and Iberian Coast ecoregions) in preparation for more de-tailed biennial assessment in 2018;

e) Conduct exploratory analyses and collate relevant data in preparation for the evaluation of the stock status for the provision of quadrennial advice due in 2019 for the following widely-distributed shark stocks: (i) Portuguese dogfish; (ii) Leafscale gulper shark; (iii) Kitefin shark; (iv) Porbeagle, and the following species that are on the prohibited species list: (v) angel shark, (vi) basking shark and (vii) white skate;

f) Propsed ToRs for a potential joint ICES-ICCAT meeting in 2019 to (i) assess porbeagle shark and (ii) collate available biological and fishery data on thresher sharks in the Atlantic;

g) Review, update and standardise Stock Annexes for elasmobranchs where necessary.

h) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).
   i. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;
   ii. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
syc-bisc	Lesser-spotted dogfish (*Scyliorhinus canicula*) in divisions 8.a–b and 8.d (Bay of Biscay)	WGEF	3.2
trk-nea	Smooth-hound (*Mustelus* spp.) in the Northeast Atlantic	WGEF	3.2
rjc-347d	Thornback ray (*Raja clavata*) in Subarea 4 and in divisions 3.a and 7.d (North Sea, Skagerrak, Kattegat, and eastern English Channel)	WGEF	3.2

i) Update life history parameters and sources of such information for WGEF stocks/species on ICES categories 3-6. This information should be included in the WGEF report and made available to **WGBIOP ahead of a future meeting** on methods for data-limited elasmobranches.

The assessments will be carried out on the basis of the stock annex in National Laboratories, prior to the meeting. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 14 days prior to the starting date.

WGEF will report by 14 June 2017 for the attention of ACOM.

WGHANSA – Working Group on Southern Horse Mackerel Anchovy and Sardine

2016/2/ACOM17 The **Working Group on Southern Horse Mackerel, Anchovy and Sardine** (WGHANSA), chaired by Lionel Pawlowski, France, will met in Bilbao, Spain, (tbc), 24–29 June 2017 to:

a) address generic ToRs for Regional and Species Working Groups, except for the assessment of Bay of Biscay anchovy.

b) assess the progress on the benchmark preparation of anchovy in Division 9.a.

c) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).

   i. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;
   ii. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer

reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
sar-78	Sardine (*Sardina pilchardus*) in divisions 8.a–b and 8.d and in Subarea 7 (Bay of Biscay, southern Celtic Seas, and the English Channel)	WGHANSA	3.2

d) Address the special request from the EU regarding a potential 2017 TAC change for anchovy in 9.a, by assessing:

   i. whether catches of 15 000 t in 2017 are deemed sustainable in accordance with ICES precautionary approach for data-limited (category 3) stocks.
   ii. the catch level in 2017 that is deemed sustainable in accordance with ICES precautionary approach for data-limited (category 3) stocks.

and by correspondence 20–24 November 2017, to:

e) address generic ToRs for Regional and Species Working Groups for Bay of Biscay anchovy).

The assessments will be carried out on the basis of the stock annex. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 1 June2017 according to the Data Call 2017.

WGHANSA will report by 7 July 2017 for all stocks except Bay of Biscay anchovy and by 24 November for Bay of Biscay anchovy stock for the attention of ACOM.

WGHARP – Group on Harp and Hooded Seals

2016/2/ACOM18 The **Working Group on Harp and Hooded Seals (WGHARP)** (Chair: Mike Hammill) proposed to meet in Nuuk for 4-5 days during late 2018 to:

a) Review results of new surveys as available for harp seals in the White Sea and southeastern portion of Barents Sea
b) Review results from the biological samples obtained from the harp seals
c) Provide advice on other issues as requested

WGHARP will report September 2018 for the attention of the ACOM.

WGMIXFISH-ADVICE – Working Group on Mixed Fisheries Advice

2016/2/ACOM19 The **Working Group on Mixed Fisheries Advice** (WGMIXFISH-ADVICE), chaired by Youen Vermard, France, will meet at ICES Headquarters 22–26 May, 2017 to:

d) Carry out mixed demersal fisheries projections for the North Sea taking into account the single species advice for cod, haddock, whiting, saithe, plaice, sole, turbot, *Nephrops norvegicus*, sole 7.d and plaice 7.d that is produced by WGNSSK in May 2017, and the management measures in place for 2017;

e) Carry out mixed demersal fisheries projections for the Celtic Sea taking into account the single species advice for cod, haddock, and whiting that is produced by WGCSE in 2017, and the management measures in place for 2017 and further develop advice for the region;

f) Carry out mixed fisheries projections for the Iberian waters taking into account the single species advice for hake, four-spot megrim, megrim and white anglerfish that is produced by WGBIE in May 2017, and the management measures in place for 2017 and further develop advice for the region;

g) Produce draft mixed-fisheries sections for the ICES advisory report 2017 that includes a dissemination of the fleet and fisheries data and forecasts for the North Sea, Celtic Sea, and Iberian waters.

WGMIXFISH-Advice will report by 2 June 2017 for the attention of ACOM

WGMIXFISH-METH – Working Group on Mixed Fisheries Advice Methodology

2016/2/ACOM20 The Working Group on Mixed Fisheries Advice Methodology (WGMIXFISH-METH), chaired by Youen Vermard, France, will meet in [Not defined yet but probably in October] to:

a) Review progress on mixed fisheries methodologies, including work under EU projects DISCARDLESS, DrumFish and consider how they might be taken forward and incorporated into the advisory process. In particular, focus should be given to the following priorities:
    i) Short term catch forecasting methods, including methods to incorporate data-poor stocks taking account of uncertainties;
    ii) Incorporation of advice on protected, endangered and threatened (PET) species into mixed fisheries assessments;
    iii) Incorporation of Fmsy ranges into forecasting procedure to provide options which minimises incompatibility between single stock advice on fishing opportunities for stocks fished in mixed fisheries. A particular attention should be given to the 'optim scenario',
    iv) Application of methodology to other ICES regions, fisheries and stocks.
b) Develop and agree on a work flow to ease the process of WGMIXFISH-ADVICE for the next years (from data submission by the countries to data exchange with ICES (Stock assessment data, InterCatch data))
c) Write a data call for next year MIXFISH-ADVICE for resubmission of a longer time period with homogeneous fleet and métiers strata.
d) Develop and/or compile a stock annex of the mixed fisheries methodologies

WGMIXFISH-METH will report by XX Month 2017 for the attention of ACOM.

WGNAS – Working Group on North Atlantic Salmon

2016/2/ACOM21 The **Working Group on North Atlantic Salmon** (WGNAS), chaired by Gerald Chaput, Canada will meet at ICES HQ, 29 March–7 April 2017 to:

a) Address relevant points in the Generic ToRs for Regional and Species Working Groups for each salmon stock complex;

b) Address questions posed by NASCO:

1. With respect to Atlantic salmon in the North Atlantic area:

1.1 provide an overview of salmon catches and landings by country, including unreported catches and catch and release, and production of farmed and ranched Atlantic salmon in 2016[1]

1.2 report on significant new or emerging threats to, or opportunities for, salmon conservation and management[2];

1.3 provide a review of examples of successes and failures in wild salmon restoration and rehabilitation and develop a classification of activities which could be recommended under various conditions or threats to the persistence of populations[3];

1.4 provide a summary of the available diet data for marine life stages of Atlantic salmon and identify key prey species at different life stages (e.g. herring at postsmolt stages, capelin in West Greenland waters and the Barents Sea)[4]

1.5 quantify possible future impacts of climate change on salmon stock dynamics *[ToR tbc]*

1.6 provide a compilation of tag releases by country in 2016; and

1.7 identify relevant data deficiencies, monitoring needs and research requirements.

2. With respect to Atlantic salmon in the North-East Atlantic Commission area:

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[1] *With regard to question 1.1, for the estimates of unreported catch the information provided should, where possible, indicate the location of the unreported catch in the following categories: in-river; estuarine; and coastal. Numbers of salmon caught and released in recreational fisheries should be provided.*

[2] *With regard to question 1.2, ICES is requested to include reports on any significant advances in understanding of the biology of Atlantic salmon that is pertinent to NASCO, including information on any new research into the migration and distribution of salmon at sea and the potential implications of climate change for salmon management.*

[3] *With regards to question 1.3 NASCO is particularly interested in case studies highlighting successes and failures of various restoration efforts employed across the North Atlantic by all Parties/jurisdictions and the metrics used for evaluating success or failure.*

[4] *In response to question 1.4, ICES is requested to comment on any significant changes in population dynamics (i.e. abundance, distribution, size structure, and energy density) of key prey species which may be associated with changes in salmon abundance, distribution, and marine ecology (e.g. the recently identified decreases in capelin energy density and the consequences on marine productivity of Atlantic salmon while also providing information related to fisheries which catch significant numbers of the identified key prey species (i.e. direct harvest or bycatch).*

2.1 describe the key events of the 2016 fisheries[5];

2.2 review and report on the development of age-specific stock conservation limits including updating the time series of the number of river stocks with established CL's by jurisdiction;

2.3 describe the status of the stocks including updating the time series of trends in the number of river stocks meeting CL's by jurisdiction;

2.4 provide information on the size, distribution and timing of the blue whiting fishery in the North East Atlantic area and any official observer information relating to bycatch which may indicate possible impact of this fishery on wild salmon.

3. With respect to Atlantic salmon in the North American Commission area:
   3.1. describe the key events of the 2016 fisheries (including the fishery at St Pierre and Miquelon)[5];
   3.2. update age-specific stock conservation limits based on new information as available including updating the time series of the number of river stocks with established CL's by jurisdiction
   3.3. describe the status of the stocks including updating the time series of trends in the number of river stocks meeting CL's by jurisdiction

4. With respect to Atlantic salmon in the West Greenland Commission area:
   4.1. describe the key events of the 2016 fisheries[5];
   4.2. describe the status of the stocks[6];

WGNAS will report by 12 April 2016 for the attention of ACOM.

WGNSSK – Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak

2016/2/ACOM22 The Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak (WGNSSK), chaired by José De Oliveira, UK, will:

Meet in Copenhagen, 26 April – 5 May 2017 to:

a) Address generic ToRs for Regional and Species Working Groups, with the exception of the Norway pout assessment;

b) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).

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[5] *In the responses to questions 2.1, 3.1 and 4.1, ICES is asked to provide details of catch, gear, effort, composition and origin of the catch and rates of exploitation. For homewater fisheries, the information provided should indicate the location of the catch in the following categories: in-river; estuarine; and coastal. Information on any other sources of fishing mortality for salmon is also requested. For 4.1 ICES should review the results of the recent phone surveys and advise on the appropriateness for incorporating resulting estimates of unreported catch into the assessment process.*

[6] *In response to question 4.2, ICES is requested to provide a brief summary of the status of North American and North-East Atlantic salmon stocks. The detailed information on the status of these stocks should be provided in response to questions 2.3 and 3.3.the status of these stocks should be provided in response to questions 2.3 and 3.3.*

i. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;
ii. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
bll-nsea	Brill (*Scophthalmus rhombus*) in Subarea 4 and divisions 3.a and 7.d–e (North Sea, Skagerrak and Kattegat, English Channel)	WGNSSK	3.2
dab-nsea	Dab (*Limanda limanda*) in Subarea 4 and Division 3.a (North Sea, Skagerrak and Kattegat)	WGNSSK	3.2
fle-nsea	Flounder (*Platichtys flesus*) in Subarea 4 and Division 3.a (North Sea, Skagerrak and Kattegat)	WGNSSK	3.2
lem-nsea	Lemon sole (*Microstomus kitt*) in Subarea 4 and divisions 3.a and 7.d (North Sea, Skagerrak and Kattegat, eastern English Channel)	WGNSSK	3.2
nep-32	Norway lobster (*Nephrops norvegicus*) in Division 4.a, Functional Unit 32 (northern North Sea, Norway Deep)	WGNSSK	4.14
mur-347d	Striped red mullet (*Mullus surmuletus*) in Subarea 4 and divisions 7.d and 3.a (North Sea, eastern English Channel, Skagerrak and Kattegat)	WGNSSK	3.2
tur-kask	Turbot (*Scophthalmus maximus*) in Division 3.a (Skagerrak and Kattegat)	WGNSSK	3.2
tur-nsea	Turbot (*Scophthalmus maximus*) in Subarea 4 (North Sea)	WGNSSK	3.2
wit-nsea	Witch (Glyptocephalus cynoglossus) in Subarea 4 and divisions 3.a and 7.d (North Sea, Skagerrak and Kattegat, eastern English Channel)	WGNSSK	3.2

By correspondence in September 2017to:

c) Address generic ToRs for Regional and Species Working Groups for the Norway pout stock;

By correspondence in October 2017to:

d) Report on reopened advice if appropriate.

The assessments will be carried out on the basis of the stock annex in National Laboratories, prior to the meeting. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 11 April 2017 according to the Data Call 2017.

WGNSSK will report by 19 May 2017, and by 2 October 2017 (Norway pout) for the attention of ACOM. Concerning ToR c) the group will report on the ACOM guidelines on reopening procedure of the advice before 12 October and will report on reopened advice before 28 October.

WGScallop – Scallop Assessment Working Group

ToRs to be updated after WGSCALLOP meeting in October

2016/2/ACOM23

WGWIDE– Working Group on Widely Distributed Stocks

2016/2/ACOM24 **The Working Group on Widely Distributed Stocks (WGWIDE)**, chaired by Gudmundur J. Oskarsson*, Iceland, will meet at ICES HQ, Denmark, 30 August – 5 September 2017 to:

a) Address generic ToRs for Regional and Species Working Groups.

b) Estimate MSY proxy reference points for the category 3 and 4 stocks in need of new advice in 2017 (see table below).

i. Collate necessary data and information for the stocks listed below prior to the Expert Group meeting. An official ICES data call was made for length and select life history parameters for each stock in the table below;

ii. Propose appropriate MSY proxies for each of the stocks listed below by using methods provided in the ICES Technical Guidelines (i.e. peer reviewed methods that were developed by WKLIFE V, WKLIFE VI, and WKProxy) along with available data and expert judgement.

Stock Code	Stock name description	EG	Data Category
boc-nea	Boarfish (*Capros aper*) in subareas 6–8 (Celtic Seas, English Channel, and Bay of Biscay)	WGWIDE	3.2

The assessments will be carried out on the basis of the stock annex in National Laboratories, prior to the meeting. The assessments must be available for audit on the first day of the meeting.

Material and data relevant for the meeting must be available to the group no later than 14 days prior to the starting date.

WGWIDE will report by 11 September, 2017 for the attention of ACOM.

Ecosystem related Expert Groups

JWGBIRD - OSPAR/HELCOM/ ICES/Working group on Seabirds

ToRs to be updated after JWGBIRD meeting in October

2016/2/ACOM24

WGBYC – Working Group on Bycatch of Protected Species

2016/2/ACOM25 The **Working Group on Bycatch of Protected Species** (WGBYC), chaired by Marjorie Lyssikatos, USA, will meet in Woods Hole Massachusetts USA, 12-15 June 2017 to:

a) Review and summarize annual national reports submitted to the European Commission under Regulation 812/2004 and other published documents and collate bycatch rates and estimates in EU waters;

b) Evaluate the range of (min/max) impacts of bycatch on protected species where possible by assessment unit. , furthering the bycatch risk approach to assess likely conservation level threats and prioritize areas where additional monitoring is needed;

c) Collate and review information from National 812 reports and elsewhere relating to the implementation of bycatch mitigation measures and ongoing bycatch mitigation trials, compile recent results and coordinate further work on protected species bycatch mitigation;

d) Continue to develop, improve and coordinate with other ICES WG's on methods for bycatch monitoring, research and assessment within the context of European legislation (e.g. MSFD) and regional conventions (intersessional);

e) Continue to develop collaborative research proposals among WGBYC members to pursue research projects and funding opportunities in support of researching protected and target species behaviour in relation to fishing gear;

f) Continue, in cooperation with the ICES Data Centre, to develop, improve, populate, and maintain the database on bycatch monitoring and relevant fishing effort in European waters. (intersessional);

g) Collate, review and evaluate relevant information on bycatch monitoring, assessment and mitigation around the European and Northwest Atlantic waters. In particular, the current state of knowledge on pinger effectiveness for small cetaceans; (intersessional);

h) Continue, in cooperation with other advisory working groups and ACOM, to develop information on and impact assessments of bycatch as input to fisheries and ecosystem overviews;

WGBYC will report by 30 June 2017 to the attention of the Advisory Committee.

Supporting Information

Priority	The current activities of this Group will lead ICES into issues related to the ecosystem affects of fisheries, especially with regard to the application of the Precautionary Approach. Consequently, these activities are considered to have a very high priority.
Scientific justification	a) The European Commission has decided not to amend Res. 812/2004 and to integrate monitoring of protected and endangered species into the new DCF (DCMAP). It is essential to cooperate with the scientists who design observer schemes and protocols for the monitoring of catch and discards; b) Evaluating trends in bycatch rates where possible from Reg. 812 reports is an essential component to the effectiveness f the legislation and monitoring of bycatch impacts on populations; c) This is essential to use in answering part of the European Commission MoU request to "provide any new information regarding the impact of fisher-ies on marine mammals, seabirds..."; d) ICES Member Countries are required to reduce levels of bycatch under several pieces of legislation; the response to this ToR will help meet that aim; e) Bycatch monitoring and assessment is fundamental to the work of the group; in light of significant changes in legislation that will impact monitoring

	programs for PETS any improvements in coordination and methods will help the group and other workers in this field; f) Improving scientific understanding how target and non-target catches interact with commercial fishing gear is fundamental to developing effective mitigation measures to reduce bycatch on vulnerable species; g-j) An operating database allows for more efficient response to future advice requests and an audit trail for information used in the Group's reports; remaining intersessional ToR's all aim to increase effeciency of WGBYC's tasks in providing advice to various groups. k) The advice drafting group added this new term of reference as a result of no clear defintion on the list of PETS under the purview of WGBYC. Developing a set of criteria will help to compile such a list.
Resource requirements	None beyond usual Secretariat facilities
Participants	13–21 members
Secretariat facilities	Secretariat suppport with meeting organization and final editing of report.
Financial	No financial implications
Linkages to advisory committees	ACOM
Linkages to other committees or groups	WGFTFB, WGMME, WGSE, WGEF, SGPIDS, WGCATCH, WGMIXFISH, WGSFD, WGNSSK, SCICOM
Linkages to other organizations	NAMMCO, ASCOBANS, ACCOBAMS, GFCM, EC, IWC

WGDEC – ICES/NAFO Joint Working Group on Deep-water Ecology

2016/2/ACOM26 The **Working Group on Deep-water Ecology** (WGDEC), chaired by Neil Golding, UK, will meet 20–24 March 2017 at ICES.

a) Provide all available new information on distribution of VMEs in the North Atlantic with a view to identifying potential new closures to bottom fisheries or revision of existing closures to bottom fisheries. In addition, provide new information on location of habitats sensitive to particular fishing activities (i.e. vulnerable marine ecosystems, VMEs) within EU waters;

b) Begin to explore how to best define Good Environmental Status (GES) for deep-sea habitats; in particular, commence a review on progress with indicator development for the deep-sea;

c) Develop a flow chart capturing how and when different information layers (including but not exclusively geomorphology, bathymetry, VME indicator/habitat layers and buffer zones) are used in order to delineate bottom fishing closures used to manage impacts of fisheries on sensitive areas;

d) Explore the development of the ICES VME Database in order to better capture 'survey effort', particularly from those trawl records where no VME indicators were recorded (absence records);

e) Review our current understanding and knowledge of the connectivity of deep-sea populations, with a view to the management of deep-sea ecosystems.

f) Review and report on the distribution of VMEs (VME Indicators and Habitats) within the Rockall Bank Haddock Box

g) Review the appropriateness of NEAFC bottom fishing closures as defined in Annex 2 of NEAFC Recommendation 19:2014, and whether significant adverse impacts on VME are still considered likely in these areas.

WGDEC will report by 5 May 2017 (tbc) to the attention of the ACOM Committee.

Supporting Information

Priority:	High as a Joint group with NAFO and is essential to providing information to help answer external requests
Scientific justification and relation to action plan:	a) This information and associated maps are required to meet the NEAFC request " to continue to provide all available new information on distribution of vulnerable habitats in the NEAFC Convention Area and fisheries activities in and in the vicinity of such habitats." as well as part of the European Commission MoU request to "provide any new information regarding the impact of fisheries on. sensitive habitats. The location of newly discovered/mapped sensitive habitats is critical to these requests. It is essential that ICES/WG chair asks its Member Countries etc. to supply as much relevant information as they may have by one month in advance of the WGDEC meeting. Completion of this ToR will also be facilitated by the completion of a VME Data Call by the ICES Data Centre during 2016; b) Understanding and defining Good Environmental Status is a core concept of the Marine Strategy Framework Directive. While much effort has been concentrated on shelf seas, including indicator development, further work on deep-sea ecosystems is required. In particular, this ToR will focus on reviewing the progress made to date with deep-sea indicator development – the focus of a number of European funded projects. c) Continuing on from work undertaken in WGDEC 2016 (ToR (b)), additional work is required to demonstrate a clear process for delineating bottom fishing closures to manage sensitive areas, such as through a flow chart. The importance of this clear process was highlighted by the VME review group and Advice Drafting Group. d) The ICES VME database, as it currently stands, provides an effective mechanism for storing records of VME indicator and *bona fide* VME habitat. However, WGDEC has not yet developed an effective way to store VME absence records. These absence records may be from trawl track records submitted by Working Group members, where no VME by-catch was recorded. Potential development of the VME database is required, or other mechanisms explored, to allow these VME absence records to be stored, so they can be utilised effectively in the future. e) Research projects, with objectives focused on developing a better understanding of the connectivity of deep-sea populations, are

	currently in progress. The aim of this ToR is to review current literature and understanding (including new knowledge being generated through this research) to allow a better understanding of the connectivity of deep-sea ecosystems. This understanding is essential when considering areas of the deep-sea (containing VMEs for example) to be being managed from potentially damaging activities. f) In 2015, evidence was found that bottom-towed gears were being used inside the area on Rockall Bank closed to fishing (https://www.neafc.org/system/files/Rec2_Haddock.pdf). ICES has previously noted that this area contains VMEs/VME indicators but no boundary within the haddock box has ever been proposed to cover an area that might be closed for habitat reasons. This ToR will enable ICES to advise the EU and NEAFC on the location of VMEs/VME indicators in this area. g) TOR g will assist NEAFC in 2017 to review the appropriateness of bottom fishing closures. The NEAFC Recommendation 19:2014 on the protection of vulnerable marine ecosystems in the NEAFC Regulatory Area includes regulations prohibiting bottom fishing activities in the following areas according to Article 5, within the coordinates as defined in Annex 2 of that Recommendation: (a) Northern MAR Area; (b) Middle MAR Area (Charlie-Gibbs Fracture Zone and sub-Polar Frontal Region); (c) Southern MAR Area; (d) Altair Seamount; (e) Antialtair Seamount; (f) Hatton Bank 1; (g) Rockall Bank; (h) Logachev Mounds; (i) West Rockall Mounds; (j) Edora's bank; (k) Southwest Rockall Bank; (l) Hatton-Rockall Basin; and (m) Hatton Bank 2. ICES has been requested to consider whether significant adverse impacts on VME are still considered likely in the closed sub-areas (a) – (i) and (k) – (m). According to Article 10, second paragraph the closures (a) – (i) and (k) – (m) shall be in force until 31 December 2017. Before that time, the measure shall be reviewed by NEAFC with the intention of extending the period that the closures are in force, unless the conclusion of the review is that the continued application of the measure or parts of the measure is not required. It is noted that the closures to be reviewed were implemented on the basis of previous ICES advice confirming that they would be appropriate and protect VMEs from significant adverse impacts. It is assumed that any new advice on modifications or advice on additional closures relevant for Rec. 19:2014 will be provided as responses to the recurrent request for scientific advice.
Resource requirements:	Support will be required from the Secretariat and the ICES Data Centre (with respect to maintenance of the ICES VME Database and VME Data Call)will be appreciated.
Participants:	The Group is normally attended by some 15–20 members and guests.
Secretariat facilities:	None, apart from the SharePoint site
Financial:	No financial implications.
Linkages to ACOM and its expert groups	ACOM is parent group. WGDEEP and WGSFD is related, but no explicit overlap in work this year.
Linkages to SCICOM and its expert groups	No direct linkages, though in 2017, better linkages with WGMHM and BEWG will be explored
Linkages to other organisations:	OSPAR, NEAFC

WGECO – Working Group on the Ecosystem Effects of Fishing Activities

2016/2/ACOM27 The **Working Group on the Ecosystem Effects of Fishing Activities** (WGECO), chaired by Jeremy Collie* (US) and Stefan Ragnarsson* (Iceland), will meet in Reykjavik, Iceland 5–12 April 2017 to:

a) Integrate large-scale maps of sensitive benthos and fish and relate this to spatial distribution of effort and landings to identify high-fishing-low-sensitivity areas and low-fishing-high-sensitivity areas:
   i) Request VMS effort maps where these are not available;
   ii) Rectangle based catches for the species listed;
   iii) Request map of sensitive habitats where these are available from WKFBI or BEWG.

b) Complete the investigation of possible indicators of scavengers, examine their relation to discard amounts and evaluate the spatial effect of a landing obligation on the scavengers;

c) Use the data available to evaluate the degree to which fisheries in the ICES region are "balanced":
   i) establish the distribution of total catch (landing + discards) among size classes (catch size spectrum), species and functional groups;
   ii) Examine how the degree of balance is related to ecosystem status;
   iii) Request catch by species and length group for the species listed;
   iv) Request survey biomass by species and length group, where possible catchability corrected.

d) Estimate indicators of state of sensitive fish species throughout the ICES area;

e) In support of providing ecosystem advice, define a list of relevant pressure, driver and state indicators to be estimated by relevant experts groups, including stock assessment groups.

f) WGECO is requested to review three ICES workshops reports, WKBENTH (28 Feb – 3 March 2017), WKSTAKE (23 March 2017), and WKTRADE (28–31 March 2017). This ICES work relates to advice request from the EU to, "Evaluate indicators for assessing pressure and impact on the seafloor from bottom-contacting fishing. Using this assessment, demonstrate trade-offs in catch/value of landings relative to impacts and recovery potential of the seafloor." The review should take into consideration previous and ongoing WGECO work in this area. The outcomes of the reviews should be reported to the attention of ACOM by 10 May 2017 to ensure they can be used in the drafting of the advice by ADGFBT (22–24 May 2017).

WGECO will report by 24 April 2017 to the attention of the Advisory Committee.

Supporting Information

Priority	The current activities of this Group will lead ICES into issues related to the ecosystem affects of fisheries, especially with regard to the application of the Precautionary Approach. Consequently, these activities are considered to have a very high priority.

Scientific justification	Term of Reference a) The integration of different ecosystem considerations before suggesting management measures is key to achieving beneficial effects on all ecosystem aspects rather than opposing effects on different ecosystem components. Further, once potential sensitive areas have been identified, consideration of socio-economic aspects require that it is at least considered how ecological aspects can be maintained at the lowest possible socio-economic cost. Term of Reference b) The implementation of a landing obligation is likely to result in major changes to the impact of fishing on particularly benthic scavenging species. The magnitude of both direct and indirect effects are unknown at present and further work is needed in order to provide advice on the direction and magnitude of change as a result of the landing obligation. Term of Reference c) The overall objective of this ToR is to determine whether a balanced fishery imposes a smaller impact on the ecoystem. Determining the ecological consequences of the degree to which fisheries are "balanced" ideally requires a large metadataset to ensure that analyses are based on all avialable data. Term of Reference d) Indicators of state of sensitive species have been developed for fish in the North Sea. However, there are numerous ICES areas where a list of sensitive species is not available for fish. Even lesss information exists for other taxa. To allow advice on sensitive species throughout the ICES area, there is a need to expand the methods used to encompass other areas and to suggest a format in which risk based advice on sensitive species can be given. Term of Reference e) To support the production of operational ecosystem advice, WGECO will define a list of relevant pressure, driver and state indicators to be estimated by relevant experts groups, including stock assessment groups. This will provide guidance for groups which are currently interested in providing more ecosystem information for advice but unsure on exactly what to provide and in which format.
Resource requirements	The research programmes which provide the main input to this group are already underway, and resources are already committed. The additional resource required to undertake additional activities in the framework of this group is negligible.
Participants	The Group is normally attended by some 20–25 members and guests.
Secretariat facilities	None.
Financial	No financial implications.
Linkages to advisory committees	There are no current direct linkages with the advisory committees.
Linkages to other committees or groups	There is a very close working relationship with the groups of the Fisheries Technology Committee, WGBIRD, BEWG, WGBIODIV and WGSAM.
Linkages to other organizations	OSPAR, HELCOM

WGMME – The Working Group on Marine Mammal Ecology

2016/2/ACOM28 The **Working Group on Marine Mammal Ecology** (WGMME), chaired by Begoña Santos (Spain) and Graham Pierce (UK), will meet in St Andrews, UK, 6–9 February 2017 to:

a) Review and report on any new information on population abundance, population/stock structure, management frameworks (including indicators and targets for MSFD assessments), and anthropogenic threats to individual health and population status (e.g. plastics);

b) Review and update the criteria for assessment of cetaceans in the context of the MSFD;

c) Review current issues in relation to direct impacts of seals on fisheries;

d) Update the database for seals;

e) Update assessments of offshore cetaceans based on new results from the SCANS III survey.

f) Contribute regional text (~150 words and 1–2 graphs in each case) to new ecosystem overviews for (i) Iceland, (ii) Norwegian Seas, (iii) Baltic, (iv) Azorean ecoregion and (v) the Oceanic Northeast Atlantic ecoregion.

WGMME will work intersessionally on ToR f to deliver the first two ecosystem overviews (i and ii) by the end of 2016 and otherwise report by 4 April 2017 for the attention of the Advisory Committee.

Justification

ToR a is a standing term of reference. However, the group proposes to expand its scope since it would be useful to include information on threats to population status. This is relevant to the assessment of population status. Ingestion of plastic debris by marine mammals is currently something of a hot topic. In addition, questions have arisen concerning the boundaries of Assessment Units for coastal bottlenose dolphins and these will be reviewed.

Tor b relates to questions arising from the cetacean assessments undertaken in 2016. Specifically, there is a need to revise the criteria for determination of whether abundance for an Assessment Unit has fallen below the baseline level. The IUCN criteria provide insufficient detail to fully define the process. It is suggested that all criteria used in the assessments are reviewed and updated as necessary.

ToR c aims to address current issues in direct (operational) seal–fisheries interactions in the context of (in some cases increasing) seal population abundance and distribution. In some areas there is increasing concern from fisheries organisations regarding the survival of coastal passive fishing gear and pressure for economic compensation and/or targeted removal of ‘rogue’ individuals. Another major aspect of seal–fisheries interactions includes competition for shared resources; however, in 2017 the group would aim to review only those direct interactions such as depredation. Indirect interactions (e.g. competition for food, transmission of codworm) could be reviewed in 2018.

ToR d is a standing term of reference.

ToR e aims to update current offshore cetacean assessments following the SCANS III survey (due to take place in summer 2016). This will be the first large-scale survey since the mid-2000s and will thus provide a much needed update on cetacean abundance, and provide the first opportunity to determine trends for several cetacean species.

Regional database

SCRDB - Steering Committee for the Regional Database FishFrame

ToRs to be provided after SC-RDB 2016 meeting (November 2016) Change of name to: Steering Committee of the Regional Fisheries Database (SCRDB)

2016/2/ACOM29

Benchmark ToRs

IBPArcticCod–An Inter-benchmark Protocol on Northeast Arctic cod

2016/2/ACOM30 **An Inter-benchmark process (IBP) on Northeast Arctic cod** (IBPArcticCod), chaired by Daniel Howell*, Norway, and attended by invited external experts Jan Horbowy, Poland, and Noel Cadigan, Canada, will be established and work by correspondence in February–March 2017 and meet at ICES Headquarters for a 3 day Inter-Benchmark meeting 4-6 April 2017 to address ToRs a) to e). In addition, IBPArcticCod will meet by correspondence in April-May 2017 to address ToR f).

a) Evaluate the appropriateness of data and methods to determine stock status and investigate methods for short-term outlook taking agreed management plan into account for Northeast Arctic cod (cod-arct). The evaluation shall include consideration of:
   i. Life-history data (natural mortality and maturity ogives);
   ii. Fishery-dependent and fishery-independent data (quality and age range);
   iii. Assessment method and issues (XSA, SAM, stock size dependent catchability, other settings)
b) Agree and document the preferred method for evaluating stock status and providing short-term forecast and update the stock annex as appropriate. Where appropriate, Knowledge of environmental drivers, including multispecies interactions, and potentially ecosystem impacts should be integrated in the methodology
c) Re-examine and update if appropppriate MSY and PA reference points according to ICES guidelines (reference); also taking the results from WKNEAMP2 into account.
d) Develop recommendations for future work to improveof the assessment and data collection and processing;
e) Produce working documents to be reviewed during correspondence work in February-March 2017, produce working documents to be reviewed during the Benchmark meeting at least 7 days prior to the meeting
f) Re-evaluate whether the Joint Russian–Norwegian Fisheries Commission management plan remains precautionary taking into account the new agreed analytical assessment method and potential new biological reference points. To the largest extent possible, the evaluation should follow the guidelines provided by the "Workshop on Guidelines for Management Strategy Evaluations" (WKGMSE, ICES CM 2013 ACOM 39), including the guidelines for reporting provided in Section 6 of the WKGMSE report. The agreed ACOM criteria for considering management plans as precautionary should also be taken into account in the evaluation.

g) Conduct correspondence work on data evaluation and hold Web conference preparatory meetings during February 2017. Stakeholders are invited to contribute data (including data from non-traditional sources) and to contribute to data preparation and evaluation of data quality.

IBPArcticCod cod will report by 15 May 2017 for the attention of ACOM.

Supporting information

Priority	The activities of this Group will improve Northeast Arctic (NEA) cod stock assessment.
Scientific justification	The cod stock has a high abundance of old fish and the XSA assessment model is sensitive to this. The estimated fishing mortalities for the strong year classes 2004–2005 are unexpectedly high for 2015 with the SPALY assessment. This may indicate that the abundance of these year classes was underestimated in the 2016 assessment. In the assessment of NEA cod, data from fish older than age 9 has not previously been included in the tuning series. This was due to lack of consistency in the data for the oldest age classes resulting from the extremely small sample sizes at these ages. However, the large 2004 and 2005 year classes are now aging beyond the age range currently used in tuning. These year classes represent a significant portion of the stock and catch, and excluding data on these from the tuning fleets in the assessment would not be advisable. At the same time, the high abundance of these year classes, combined with the moderate fishing mortality they have experienced during their life, means that the number of sampled fish at age 10 and 11 is now much higher than in recent years. During the 2016 assessment it was therefore decided to investigate the age range used for the tuning fleets, in order to include more information about the strength of the 2004 and 2005 year classes. However, ADGANW and ACOM leadership did not accept the changes proposed by AFWG "as there were too many unresolved issued with the new model" and it was decided that ICES should conduct an Inter-benchmark (IBP) process to work through the spring of 2017 to review the assessment for this stock.
Resource requirements	Two external reviewers (one SAM expert) and work from WG members.
Participants	The Group is expected to be attended by 10–15 members and guests.
Secretariat facilities	None.
Financial	No financial implications.
Linkages to advisory committees	ACOM
Linkages to other committees or groups	AFWG
Linkages to other organizations	None.

WKBALT – Benchmark of Baltic Stocks

2016/2/ACOM31 A **Benchmark of Baltic Stocks** (WKBALT), chaired by External Chair Verena Trenkel*, France and ICES Chairs Margit Eero*, Denmark, and Noél Holmgren*, Sweden, and attended by two invited external experts Jim Seeb, USA, and Niels Hintzen, Netherlands will be established and will meet in Copenhagen, Denmark 7–9 December 2016 for a data evaluation meeting (DEWK) and in Copenhagen, Denmark for a Benchmark meeting 7–10 February 2017 to:

a) Evaluate the appropriateness of data and methods to determine stock status and investigate methods for short term outlook taking agreed or proposed management plans into account for the stocks listed in the text table below. The evaluation shall include consideration of:
   i. Stock identity and migration issues;
   ii. Life history data;
   iii. Fishery-dependent and fishery independent data;
   iv. Further inclusion of environmental drivers, multi-species information, and ecosystem impacts for stock dynamics in the assessments and outlook
b) Agree and document the preferred method for evaluating stock status and (where applicable) short term forecast and update the stock annex as appropriate. Knowledge about environmental drivers, including multispecies interactions, and ecosystem impacts should be integrated in the methodology

   If no analytical assessment method can be agreed, then an alternative method (the former method, or following the ICES approach for category 3 – 6 stocks) should be put forward;
c) Re-examine and update if appropriate MSY and PA reference points according to ICES guidelines (reference);
d) Develop recommendations for future work to improve the assessments and data collection and processing;
e) Produce working documents following the DEW, to be reviewed during the Benchmark meeting at least 7 days prior to the meeting

Stakeholders are invited to participate in the benchmark work and to contribute with relevant data and information As part of the data evaluation workshop consider the quality of data including discard and estimates of misreporting of landings;

Stocks	Stock leader
Herring (*Clupea harengus*) in Subdivision 30 (Bothnian Sea)	Jukka Pönni
Herring (*Clupea harengus*) in Subdivision 31 (Bothnian Sea)	Jari Raitaniemi
Cod (*Gadus morhua*) in Division 3.a East (Kattegat)	Johan Lövgren

The Benchmark Workshop will report by 1 April 2017 for the attention of ACOM.

WKBaltSalmon– Benchmark of Baltic Salmon

2016/2/ACOM32 A **Benchmark of Baltic Salmon** (WKBaltSalmon), chaired by ICES Chair Tapani Pakarinen*, Finland, and attended by two invited external experts Carrie Holt, Canada and Chris Legault, US will be established and will meet at ICES HQ 22–24 November 2016 (tbc) for a data evaluation meeting and at ICES for a Benchmark meeting 30 January – 3 February 2017 to:

a) Evaluate the appropriateness of data and methods to determine stock status and investigate methods for short term outlook taking agreed or proposed management plans into account for the stocks listed in the text table below. The evaluation shall include consideration of:
   i. Stock identity and migration issues;

ii. Life history data;

iii. Fishery-dependent and fishery independent data;

iv. Further inclusion of environmental drivers, multi-species information, and ecosystem impacts for stock dynamics in the assessments and outlook

b) Agree and document the preferred method for evaluating stock status and (where applicable) short term forecast and update the stock annex as appropriate. Knowledge about environmental drivers, including multispecies interactions, and ecosystem impacts should be integrated in the methodology

If no analytical assessment method can be agreed, then an alternative method (the former method, or following the ICES approach for category 3 – 6 stocks) should be put forward;

c) Re-examine and update if appropriate MSY and PA reference points according to ICES guidelines (reference);

d) Develop recommendations for future work to improve the assessment, and data collection and processing;

e) Produce working documents following the DEWK to be reviewed during the Benchmark meeting at least 7 days prior to the meeting.

f)

i) Stakeholders are invited to participate in the benchmark work and to contribute with relevant data and information. As part of the data compilation workshop consider the quality of data including discard and estimates of misreporting of landings;

Stocks	Stock leader
Salmon (*Salmo salar*) in Subdivisions 22–31 (Baltic Sea, excluding Gulf of Finland)	Johan Lövgren & Henni Pulkkinen
Salmon (*Salmo salar*) in Subdivision 32 (Gulf of Finland)	Johan Lövgren & Henni Pulkkinen

The Benchmark Workshop will report by 1 April 2017 for the attention of ACOM.

WKBASS – Benchmark on Sea bass

2016/2/ACOM33 A **Benchmark on Sea Bass** (WKBASS), chaired by External Chair Vladlena Gertseva, USA and ICES Chair Massimiliano Cardinale*, Sweden (for Benchmark) and ICES Chairs Mike Armstrong, UK and Kieran Hyder, UK (for Data Evaluation), and attended by invited external experts John Hoenig, USA and Karim Erzini, Portugal, will be established and will meet at ICES in Copenhagen, Denmark for a data evaluation meeting 10–12 January 2017 and at ICES, Copenhagen, Denmark for a Benchmark meeting 20–24 February 2017 to:

a) Evaluate the appropriateness of data and methods to determine stock status and investigate methods for short term outlook taking agreed or proposed management plans into account for the stocks listed in the text table below. The evaluation shall include consideration of:

i. Stock identity and migration issues;

ii. Life history data;

iii. Fishery-dependent and fishery independent data;

iv. Further inclusion of environmental drivers, multi-species information, and ecosystem impacts for stock dynamics in the assessments and outlook

b) Agree and document the preferred method for evaluating stock status and (where applicable) short term forecast and update the stock annex as appropriate. Knowledge about environmental drivers, including multispecies interactions, and ecosystem impacts should be integrated in the methodology

If no analytical assessment method can be agreed, then an alternative method (the former method, or following the ICES data-limited stock approach for category 3-6 stocks) should be put forward;

c) Re-examine and update if appropriate MSY and PA reference points according to ICES guidelines (reference);

d) Develop recommendations for future work to improve the assessments and data collection and processing;

e) Produce working documents following the DEW, to be reviewed during the Benchmark meeting at least 7 days prior to the meeting

Stakeholders are invited to participate in the benchmark work and to contribute with relevant data and information. As part of the data compilation workshop consider the quality of data including discard and estimates of misreporting of landings;

Stocks	Stock leader
(*Dicentrarchus labrax*) in Divisions 4b and c, 6a, and 7d–h (Central and South North Sea, Irish Sea, English Channel, Bristol Channel, Celtic Sea)	Lisa Readdy
Seabass (*Dicentrarchus labrax*) in Divisions 8a,b (Bay of Biscay North and Central)	Mickael Drogou

The Benchmark Workshop will report by 1 April 2017 for the attention of ACOM.

WKFAROE – Benchmark of Faroese Stocks

2016/2/ACOM34 A **Benchmark of Faroese Stocks** (WKFAROE), chaired Höskuldur Björnsson*, Iceland and attended by invited external experts, Matt Dunn, New Zealand; and Sigurdur Thor Jönsson, Iceland, will be established and meet for a three-day data evaluation meeting at ICES HQ 6–8 December 2016 and at ICES Headquarters for a 5 day Benchmark meeting 13–17 February 2017 to:

a) Evaluate the appropriateness of data and methods to determine stock status and investigate methods for short term outlook taking agreed or proposed management plans into account for the stocks listed in the text table below. The evaluation shall include consideration of:

i. Stock identity and migration issues;

ii. Life-history data;

iii. Fishery-dependent and fishery-independent data;

iv. Further inclusion of environmental drivers, multi-species information, and ecosystem impacts for stock dynamics in the assessments and outlook

b) Agree and document the preferred method for evaluating stock status and (where applicable) short term forecast and update the stock annex as appropriate. Knowledge about environmental drivers, including multispecies interactions, and ecosystem impacts should be integrated in the methodology

   If no analytical assessment method can be agreed, then an alternative method (the former method, or following the ICES approach for category 3-6 stocks) should be put forward;

c) Re-examine and update if appropriate MSY and PA reference points according to ICES guidelines (reference);

d) Develop recommendations for future work to improve the assessment, data collection and procession;

e) Produce working documents following the DEWK to be reviewed during the Benchmark meeting at least 7 days prior to the meeting

Stakeholders are invited to participate in the benchmark work and to contribute with relevant data As part of the data compilation work consider the quality of data including discard and estimates of misreporting of landings;

Stocks	Stock leader
Cod (*Gadus morhua*) in Subdivision 5.b.1 (Faroe Plateau)	Petur Steingrund
Haddock (*Melanogrammus aeglefinus*) in Division 5.b (Faroes grounds)	Jákup Reinert
Haddock (*Melanogrammus aeglefinus*) in Division 6.b (Rockall)	
Saithe (Pollachius virens) in Division 5.b (Faroes grounds)	Luis Ridao Cruz

The Benchmark Workshop will report by 1 March 2017 for the attention of ACOM.

WKIRISH - Benchmark process for the Irish Sea

See the Benchmark Steering Group (BSG) resolutions.

WKNSEA – Benchmark of North Sea Stocks

2016/2/ACOM35 A **Benchmark of North Sea Stocks** (WKNSEA), chaired by External Chair Liz Brooks, US and ICES Chair Jennifer Devine*, Norway, and attended by two invited external experts John Wiedenmann, US and Nathan Taylor, Canada will be established and will meet at ILVO in Oostende, Belgium 8–10 November 2016 for a three-day data evaluation meeting and at ICES HQ, Copenhagen, Denmark for a Benchmark meeting 6–10 February 2017 to:

a) Evaluate the appropriateness of data and methods to determine stock status and investigate methods for short term outlook taking agreed or proposed management plans into account for the stocks listed in the text table below. The evaluation shall include consideration of:

i. Stock identity and migration issues;
ii. Life history data;
iii. Fishery-dependent and fishery independent data;
iv. Further inclusion of environmental drivers, multi-species information, and ecosystem impacts for stock dynamics in the assessments and outlook

b) Agree and document the preferred method for evaluating stock status and (where applicable) short term forecast and update the stock annex as appropriate. Knowledge about environmental drivers, including multispecies interactions, and ecosystem impacts should be integrated in the methodology

   If no analytical assessment method can be agreed, then an alternative method (the former method, or following the ICES approach to category 3-6 stocks) should be put forward;

c) Re-examine and update if appropriate MSY and PA reference points according to ICES guidelines (reference);

d) Develop recommendations for future work to improve of the assessments and data collection and processing;

e) Produce working documents following the DEW, to be reviewed during the Benchmark meeting at least 7 days prior to the meeting

Stakeholders are invited to participate in the benchmark work and to contribute with relevant data and information. As part of the data evaluation workshop consider the quality of data including discard and estimates of misreporting of landings;

Stocks	Stock leader
Plaice (*Pleuronectes platessa*) in Subarea 4 (North Sea) and Division 3a (Skagerrak)	Tessa van der Hammen
Sole (*Solea solea*) in Division 7d (Eastern English Channel)	Kelle Moreau

The Benchmark Workshop will report by 1 April 2017 for the attention of ACOM.

WKPELA – Benchmark Workshop on Pelagic Stocks

2016/2/ACOM36 A **Benchmark of Pelagic Stocks** (WKPELA), chaired by External Chair Dankert Skagen*, Norway and ICES Chair Andrés Uriarte*, Spain, and attended by invited external experts Yi-Jay Chang, Taiwan and Martin Dorn, USA will be established and meet on 26–30 September 2016 for sar-soth and sar-78 during WKSAR, and on 21–23 November 2016 for hom-soth for a data evaluation meetings in Lisbon, Portugal and for a Benchmark meeting on 6–10 February 2017 in Lisbon, Portugal to address ToRs a) to e) outlined below. **In addition, WKPELA will meet in Lisbon, Portugal 29–31 May 2017 to address ToRs f) and g)**:

a) Evaluate the appropriateness of data and methods to determine stock status and investigate methods for short term outlook taking agreed or proposed management plans into account for the stocks listed in the text table below. The evaluation shall include consideration of:

   i. Stock identity and migration issues;
   ii. Life-history data;

iii. Fishery-dependent and fishery-independent data;

iv. Further inclusion of environmental drivers, multi-species information, and ecosystem impacts for stock dynamics in the assessments and outlook

b) Agree and document the preferred method for evaluating stock status and (where applicable) short term forecast and update the stock annex as appropriate. Knowledge about environmental drivers, including multispecies interactions, and ecosystem impacts should be integrated in the methodology

If no analytical assessment method can be agreed, then an alternative method (the former method, or following the ICES approach for category 3-6 stocks) should be put forward;

c) Re-examine and update if appropppriate MSY and PA reference points according to ICES guidelines (reference);

d) Develop recommendations for future work to improve the assessment, and data collection and processing;

e) Produce working documents following the DEWK to be reviewed during the Benchmark meeting at least 7 days prior to the meeting

f) For the stock sar-soth evaluate whether the Portuguese-Spanish sardine fishery management plan is precautionary taking into account the new agreed analytical assessment method and potential new biological reference points. In addition, it should be evaluated whether the plan remains precautionary when adding the following condition to the original plan: "*In cases where applying the plan results in catches of less than 50% of catches in the previous year, then ICES catch advice on a precautionary basis should apply.*" To the largest extent possible, the evaluation should follow the guidelines provided by the "Workshop on Guidelines for Management Strategy Evaluations" (WKGMSE, ICES CM 2013 ACOM 39), including the guidelines for reporting provided in Section 6 of the WKGMSE report. The agreed ACOM criteria for considering management plans as precautionary should also be taken into account in the evaluation.

g) Prepare the first draft of the advice in response to the EU request on whether the Portuguese – Spanish sardine fishery management plan remains precautionary by introducing the condition *"In cases where applying the plan results in catches of less than 50% of catches in the previous year, then ICES catch advice on a precautionary basis should apply".*

Stakeholders are invited to participate in the benchmark work and to contribute with relevant data. As part of the data compilation workshop consider the quality of data including discard and estimates of misreporting of landings. Stock identity issues of horse mackerel should be linked with the stocks being benchmarked in WKWIDE, if possible addressed before the DEWK.

Stocks	Stock leader
Sardine (*Sardina pilchardus*) in Divisions 8a,b,d and Subarea 7 (Bay of Biscay, Southern Celtic Seas and English Channel)	Lionel Pawlowski
Sardine (*Sardina pilchardus*) in Divisions 8c and 9a (Cantabrian Sea, Atlantic Iberian Waters)	Alexandra Silva
Horse mackerel (*Trachurus trachurus*) in Division 9a (Atlantic Iberian waters) (Southern stock)	Gersom Costas

The Benchmark Workshop will report by xx XX 2017 for the attention of ACOM.

WKWIDE – Benchmark Workshop on Widely Distributed Stocks

2016/2/ACOM37 A **Benchmark of Widely Distributed Stocks** (WKWIDE), chaired by External Chair Jon Deroba*, US and ICES Chair Andrew Campbell*, Ireland, and attended by two invited external experts, Teresa Amar, US and Paul Fernandes, UK will be established and meet for a three-day data evaluation meeting at ICES HQ 15–18, November 2016 and at ICES Headquarters for a Benchmark meeting, 30 January – 3 February 2017 to:

a) Evaluate the appropriateness of data and methods to determine stock status and investigate methods for short term outlook taking agreed or proposed management plans into account for the stocks listed in the text table below. The evaluation shall include consideration of:
   i. Stock identity and migration issues;
   ii. Life-history data;
   iii. Fishery-dependent and fishery-independent data;
   iv. Further inclusion of environmental drivers, multi-species information, and ecosystem impacts for stock dynamics in the assessments and outlook

b) Agree and document the preferred method for evaluating stock status and (where applicable) short term forecast and update the stock annex as appropriate. Knowledge about environmental drivers, including multispecies interactions, and ecosystem impacts should be integrated in the methodology

   If no analytical assessment method can be agreed, then an alternative method (the former method, or following the ICES data-limited stock approach) should be put forward;

c) Re-examine and update if appropriate necessary) MSY and PA reference points according to ICES guidelines (reference);

d) Develop recommendations for future work to improve the assessment and data collection and processing;

e) Produce working documents following the DEWK to be reviewed during the Benchmark meeting at least 7 days prior to the meeting

f) Taking into account the current knowledge on stock identity, structure and migration, review the appropriateness of the ICES advice to continue with the existing measures (spatio-temporal closures and minimum landing size) to protect the North Sea spawning component;

g) For the mackerel stock address the request from EU, Faroes and Norway to evaluate the long term management strategy. To the largest extent possible, the evaluation should follow the guidelines provided by the "Workshop on Guidelines for Management Strategy Evaluations" (WKGMSE, ICES CM 2013 ACOM 39), including the guidelines for reporting provided in Section 6 of the WKGMSE report. The agreed ACOM criteria for considering management plans as precautionary should also be taken into account in the evaluation. This would involve a scooping exercise to be conducted at benchmark 1. The MSE analysis should be conducted by correspondence and finalised, agreed and reviewed at benchmark 2.

h) Prepare the first draft of the advice in response to the EU, Faroes, and Norway request on long-term management strategies for mackerel

Stakeholders are invited to participate in the benchmark work and to contribute data (including data from non-traditional sources) and to contribute with relevant data and information. As part of the data compilation work consider the quality of data including discard and estimates of misreporting of landings. Stock identity issues of horse mackerel should be linked with the stocks being benchmarked in WKPELA, if possible addressed before the DEWK.

Stocks	Stock leader
Mackerel (*Scomber scombrus*) in Subareas 1-7 and 14 and Division 8a-e, 9a (Northeast Atlantic)	
Horse mackerel (*Trachurus trachurus*) in Subarea 8 and Divisions 2a, 4a, 5b, 6a, 7a–c, e–k (Northeast Atlantic)	
Horse mackerel (*Trachurus trachurus*) in Divisions 3a, 4b, c, and 7d (Skagerrak and Kattegat, Southern and Central North Sea, Eastern English Channel)	

The Benchmark Workshop will report by 31 March 2017 for the attention of ACOM.

New Expert Groups and other 2017 meetings

WKSIDAC - Workshop on Stock Identification and allocation of catches of herring to stocks

2016/2/ACOM38 A **Workshop on Stock Identification and allocation of catches of herring to stocks** (WKSIDAC) will be established and Chaired by Lotte Worsøe Clausen*, Denmark, and Martin Pastoors*, NL) and will meet in TBD, Ireland, 20–24 November 2017, to:

a) Review information on stock identification and validation work done so far;
   i. Otolith shape (at least two methods: Danish [MATLAB] and Icelandic [ShapeR]);
   ii. Otolith microstructure;
   iii. Otolith growth macrostructures
   iv. Separation function approach as applied for the separation of Central Baltic herring and Western Baltic Spring Spawners;
   v. Vertebrae Series count;
   vi. Genetic separation techniques (as applied to e.g. boarfish, horse mackerel and 6a herring)
b) Review available material for the workshop by method (Table 1)
c) Analysis of the optimal allocation method for stock assessment purposes by area;
   i. Norwegian Sea: NSSH, NASH, NSAS
   ii. North Sea and 3a: WBSS, NSAS, NSSH
   iii. Western Baltic: WBSS, CBH

iv. West of British Isles (6a,7bc): WBIH (genetic multi-marker approach pending its availability)

d) Outline a manual by method (a – e) for stock identification of herring for implementation in individual laboratories;

e) Provide guidance on a retrospective correction of herring survey time-series where necessary

WKSIDAC will report by 8 December 2017 for the attention of ACOM and WGBIOP.

Most herring populations are migratory and often congregate on feeding and wintering grounds where aggregations may consist of mixtures of individuals from several populations, thus the standard concept of 'a herring stock' within a geographical area such as a management unit is not straight-forward to assume. Morphometric analysis, analysis of calcified structures, and analysis of the genetic composition are among the most widespread tools available for stock identification of bony fish and a wide variety of methods have been used to separate herring into populations or stocks. A prevailing method is to relate population affiliation to spawning time of the individual herring and the current stock splitting procedure for NSAS and WBSS applied in the herring assessment working group in ICES (HAWG) assigns individual herring to stock based on spawning time based on either otolith microstructure, otolith shape or vertebrae count. These methods rely on updated baselines and inter-calibration between assigning laboratories in order to be as accurate and precise as possible. The last workshop was held between Sweden and Denmark in 1989. Since then, the methods have been implemented in several other countries and and new methods have been developed. In addition, Next Generation Sequencing (NGS) and Genotyping by Sequencing (GBS) based approaches have recently been developed and applied to e.g. cod (*Gadus morhua*), boarfish (*Capros aper*) and horse mackerel (*Trachurus trachurus*) for marker development and screening of spawning samples. Given all these developments, it is now highly appropriate to have an comprehensive workshop for herring stock identification methods.

The workshop will have several objectives; improve the accuracy and precision of the methods currently applied across laboratories by area; compare alternative available methods; outline a common generic approach in terms of methods; and draft guidelines for conducting stock-splits for assessment purposes. The workshop will cover the areas 2.a, 6.a+7.b-c, 4.a-c+7.d, 3.a, SD22+23+24 and the most common methods used to separate herring in those areas. The Workshop will be area-specific in terms of methods, evaluations and output, but will also examine potential implementation of different methods for stocks new to the method. Manuals will be drafted, specifying the areas relevant for the given method, hold details on minimum sampling size, stratification and other sampling related issues.

In the future, there might also be a need for a splitting between NSAS and 6.a herring. These stocks may mix as adults along the border between Subarea 4.a, 6.a at the time of the HERAS survey, and as juveniles in the North Sea (Moray Firth, German Bight). Further both stocks potentially mix with NSSH around the border to Subarea 2.

Table 1: stocks in areas			Area				
Stocks/stock complexes			Div 2a	SubArea 6 + divs. 7.b-c	SubArea 4 + Div.7.d	Div 3.a	SD 22, 23, 24
Icelandic Summer Spawning Herring	ISSH	1	x		?		

NASH Norwegian Autumn Spawning Herring	NASH	2	x		?		
NSSH Norwegian Spring Spawning Herring	NSSH	3	x	?	x	x	
WBIH North West of the British Isles Herring	WBIH	4	?	x	?		
NSAS North Sea Autumn Spawning Herring	NSAS	5	x	?	x	x	
WBSS Western Baltic Spring Spawning Herring	WBSS	6			x	x	x
CBH Central Baltic Herring	CBH	7				x	x

Table 2: Summary of details for the Workshop.				Area				
				Div. 2.a	Sub Area 6+ Div 7.b-c	Sub-Area 4 + Div. 7.d	Div 3.a	SD 22, 23, 24
Parameter	Specification	Assign-ment method	Material needed from xxx herring (per stock)	no's of the stocks from table 1, that are split, separated by a comma. Same,Same means analysis of within stock structure, within brackets means potential split.				
Fish morpho-metrics/ landmarks	xy-coordinates of defined points at fish contour	Discrimi-nation analysis	xxx images of fresh herring from mixed samples, other individual affilation to stock is needed. Consider maturity stage P2	(1,3)	4,4			(6,7)
Fish Length at age	herring total length vs WR count	Separatio n function	xxx herring lengths at different spawning sites and SD24+25 from several years. Consider P3					6,7
Otolith shape (image)	Elliptic Fourier Descriptors	Discrimi-nation analysis	Juveniles+adults: xxx images from mixed samples + other stock ID. Spawning individuals: xxx images. All from several locations and several years. Consider P1	(1,3)	4,4; (3,4; 3,5)	5,6	5,6 + 6,6	6,6; (6,7)
Otolith shape (image based)	Wavelet Descriptors	Discrimi-nation analysis	juveniles+adults: xxx images from mixed samples with other stock ID + spawning individuals: xxx images. All from several locations and several years. Consider P1	1,3	(3,4; 3,5)	(3,4; 3,5)	(3,6 + 5,6)	
Fish meristics:	Vertebrae series count (vs count)	Separatio nfunction	xxx vs counts at spawning. xxx vs counts from mixed samples + other stock ID. All from several locations and several years. Consider P4,P5	(3,4); 3,5	(3,4); 3,5	(3,4); 3,5	3,6 + 5,6	
Otolith Growth pattern	Radial distances of winter rings (WR)	Growth separatio n function	xxx images of otoliths with visible WR from spawning samples and mixed samples + other stock ID. All from several locations and several years. Consider P3	(3,4 3,5)	(3,4; 3,5; 4,4)	(5,6 3,4; 3,5)	(3,6 ; 5,6)	
Otolith microstruc ture analysis	Daily increment widths	Visual inspectio n + growth function	Juveniles+adults: xxx images from sevral mixed samples with other stock ID + spawning individuals: xxx images. All from several locations and several years	(2,3)	(4,4; 5,6)	5,6	5,6 + 6,6	5,6 + 6,6
Growth pattern: Scale circuli	Radial distances of winter rings	Relative growth function	Juveniles+adults: xxx images from mixed samples with other stock ID + spawning individuals: xxx images. All from several locations and several years. Consider P3	(1,3)		(3,5)		
Genetic markers	NGS/GBS	Discrimin ation analysis	Genetic marker development and screening of spawning samples		X			
Age	Covariate parameter	P1	for all		?	5,6	5,6	
Maturity stage	Covariate parameter	P2	for all	1,3	?	5,6	5,6	
Time	Covariate parameter	P3	for all	(1,3)	?	5,6	5,6	

Longitude	Covariate parameter	P4	for all	(1,3)	?	5,6	5,6	
Lattitude	Covariate parameter	P5	for all	(1,3)	?	5,6	5,6	

Individual sample size has to be agreed upon based on availability and optimal sample size for processing and statistical comparison of methods with regard to power and cost efficiency in stock assignment.

Multiple parameters should be extracted for each individual, vs counts constitute a speciel case that needs consideration of how to achieve multiple measurements in several labs. Images should be circulated to achieve annotated measurements.

Supporting Information

Priority:	Stock identification is an essential feature in fish stock assessment to estimate vital rates for population analysis of the correct units. In order to arrive at appropriate management advice stock separation procedures must be reliable. Otolith processing methods and otolith structure interpretation methods might differ considerably between countries. Therefore, a generic manual should be available for any laboratory engaging in the production of data for stock separation. An initial calibration should be carried out, and if serious problems exist the workshop should solve these problems and tailor the manual to prevent such issues in the future.
Scientific justification and relation to action plan:	The aim of the workshop is to review the available information on stock identification, separation, validation and operationality for herring, to improve the accuracy and precision of stock splitting and share and align the methods and procedures used in different laboratories. A wide range of sampling, computation and calibration need to preceed the workshop (Table 2) during 2016 in order to assess the precision of stock identification methods. At the workshop, in 2017, these results and data will be presented, discussed and form the basis for advice and manuals from the workshop.
Resource requirements:	No specific resource requirements beyond the need for members to prepare for and participate in the meeting.
Participants:	In view of its relevance to the EU Data Collection Framework (DCF), the Workshop is expected to attract interest from ICES Member States.
Secretariat facilities:	None.
Financial:	Additional funding will be required for facilitate the attendance of the scientists and technicians. Potential external expertise by invitation (Dave Secor, Steven Campana, Steve Cadrin, Rob Stevenson, Gary Melvin, Lísa Anne Libungan)
Linkages to advisory committees:	ACOM
Linkages to other committees or groups:	WGBIOP, ACOM, RCM, HAWG, WGWIDE, WGIPS, WGBIFS, WGBFAS
Linkages to other organisations:	There is a direct link with the EU DCF, PelAC, DPPO, PFA, SPFA

WKSHARK3 - Workshop to compile and refine catch and landings of elasmobranchs

2016/2/ACOM39 A third **Workshop to compile and refine catch and landings of elasmobranchs** [WKSHARK3] will be established and co-chaired by Pascal Lorance* (France) and Jan Jaap Poos* (Netherlands) and at IFREMER, Nantes, France, 20–24 February 2017 to:

a) Evaluate current sampling programmes for discards to evaluate for which stocks there are sufficient data to allow for estimation of total discards, and to determine the optimal methods for raising discards data for stocks of interest;

b) Evaluate the suitability of existing national programmes for the estimation of discard rates and quantities for case-study elasmobranchs, considering their often seasonal and sometimes localised nature. Preliminary studies will focus on specified case-study species and metiers, representing species with contrasting levels and qualities of data, including: (i) porbeagle shark *Lamna nasus* (e.g. in net and trawl fisheries operating in the Celtic Sea), (ii) tope *Galeorhinus galeus*; (iii) spurdog *Squalus acanthias* in net and trawl fisheries; (iv) smooth-hounds *Mustelus* spp.; (v) skates, representing data-rich (e.g. thornback ray, cuckoo ray) and data-limited stocks (e.g. blonde ray) and (vi) deep-water squaliform sharks;

c) Examine the discard-retention patterns of elasmobranch species captured by (i) beam trawl, (ii) bottom otter trawl, (iii) gillnets and (iv) longlines;

d) Examine the suitability of existing national programmes to inform on the bycatch of rare elasmobranch species (e.g. basking shark and angel shark), and identify which areas, seasons and gears for which more informative data on discarding of rare species could be collected;

e) Review available studies to identify where there are existing data on the at-vessel mortality and post-release mortality of elasmobranch species by gear type and identify important data gaps

Participants should ensure that raw data from national observer programmes are brought to the meeting to facilitate analyses.

WKSHARK3 will report by 10 March 2017 for the attention of ACOM and WGEF.

Supporting Information

Priority:	
Scientific justification and relation to action plan:	
Resource requirements:	No specific resource requirements beyond the need for members to prepare for and participate in the meeting.
Participants:	
Secretariat facilities:	None.
Financial:	
Linkages to advisory committees:	ACOM
Linkages to other committees or groups:	WGEF, WKMEDS, INTERCATCH, WGBYC and WGCATCH.
Linkages to other organisations:	

WKCCISAL - Workshop on Potential Impacts of Climate Change on Atlantic Salmon Stock Dynamics

2016/2/ACOM40 The **Workshop on Potential Impacts of Climate Change on Atlantic Salmon Stock Dynamics (WKCCISAL**), co-chaired by Dennis Ensing*, UK and James Irvine, Canada will meet at ICES in Copenhagen, Denmark, 27–28 March 2017 to:

a) Identify the changes in climate that may potentially impact wild Atlantic salmon in its distributional range based on the predictions of climate change including those from the most recent International Panel on Climate Change (IPCC);
b) Review the conclusions of published literature and research on the biological and environmental drivers that impact on stock dynamics of Atlantic salmon;
c) Given the predicted changes in climate identified in (a) and the drivers that impact Atlantic salmon identified in (b), identify and describe the potential effects of climate change on Atlantic salmon stock dynamics including (but not limited to) the impacts on:
    i. the biological characteristics (growth, condition, maturity, fecundity, time at sea, survival, etc) that may affect the productivity of the stocks.
    ii. the riverine, estuarine and marine habitat and potential consequences for salmon.
    iii. the interactions with other species (parasites, predators, preys and competing species including invasive species).
    iv. the migration routes used by salmon and the timing of migration and implications of such changes.
    v. the interpopulation genetic diversity
d) Prepare the first draft of the advice to address the NASCO request.

WKCCISAL will report by April 11, 2017 for the attention of the ACOM and SCICOM Committees.

Supporting information

Priority	This workshop will provide the scientific basis to respond to a request for advice from the NASCO on the topic.
Scientific justification	NASCO has requested ICES to provide advice on the potential impacts of climate change on Atlantic salmon dynamics. Given that there is significant expertise both inside and outside the ICES scientific community relating to climate change, it is considered that the examination of this topic in a workshop setting is appropriate to ensure that the full range of perspectives on the potential impacts of climate change on Atlantic salmon stock dynamics can be described. The outcomes from this workshop will lead to ICES Advice with a release on May 5, 2017.
Resource requirements	1. Time for national scientists to prepare reviews and participate in the workshop;

	2. Meeting facilities at ICES in Denmark.
Participants	The Workshop could be attended by up to 40 participants.
Secretariat facilities	ICES Secretariat will be required to notify participants of the meeting and produce the report. Some ICES Professional staff would be involved in the workshop.
Financial	No financial implications.
Linkages to advisory committees	Direct linkage with the 2017 request for advice from NASCO to be addressed by ACOM
Linkages to other committees or groups	Linkage with SCICOM expert groups that have expertise with climate change (to identify) and external experts.
Linkages to other organizations	NASCO

WKBENTH - Workshop to evaluate regional benthic pressure and impact indictor(s) from bottom fishing

2017/2/ACOM41 The **Workshop to evaluate regional benthic pressure and impact indictor(s) from bottom fishing** (WKBENTH), chaired by Adriaan Rijnsdorp*, The Netherlands, will meet in Copenhagen, Denmark, 28 February – 3 March 2017 to:

a) Building on 2016 ICES Advice to the EU "guidance on how pressure maps of fishing intensity contribute to an assessment of the state of seabed habitats", compare a set of maps/indicators for assessing both physical disturbance pressures from bottom-contacting fishing gears and their environmental impacts on seabed habitats/sea-floor integrity. Worked examples (e.g. Baltic Sea, N. Sea and/or Celtic Sea) at the scale of MSFD (sub)region should be prepared, that include:
    i. Map and indicator(s) of fishing intensity (physical disturbance), for the most recent 6-year period (and for earlier periods where possible); and
    ii. Map and indicator(s) of the area impacted by bottom fishing (in the same 6-year periods), and the proportion (%) of each MSFD broad habitat type impacted per subdivision.
b) With the above (TOR a) in mind, compare impact estimates (maps and associated indicators) by exploring:
    i. how impact scores per c-square (lowest spatial resolution) are aggregated spatially into a subdivision-scale score (e.g. by considering fragmentation, average, maximum, cumulative) per habitat type;
    ii. how overall impact scores compare to other benthic community composition indicators of impact, and where possible use a ground truth data set across a trawling gradient;
    iii. explore the impact indicator's flexibility to also incorporate other types of pressures that may simultaneously impact the benthos (e.g. hypoxia due to nutrient enrichment or physical disturbance from gravel extraction)

iv. how the current indicators perform against previous ICES advice on what constitutes a good indicator.

c) With TOR b in mind, suggest how the guidance relates to the continued development of work within the Regional Sea Conventions. The assessment scale of indicators should be suitable biogeographic subdivisions of the MSFD regions and subregions, and per MSFD broad habitat type (or more finely-defined habitat types).

In preparation for the workshop, the Chair, Adriaan Rijnsdorp, The Netherlands, will facilitate coordination and consolidation of work on TOR a-b, as well as help ensure the workshop's objectives TOR are met and that the workshop report is finalized.

WKBENTH will provide a draft report to WKSTAKE by 13 March 2017, and based on feedback, finalize the report by 31 March 2017 for the attention of the ACOM Committee.

Supporting information

Priority	High, in response to a special request from DGENV on the Common Implementation (CIS) of the MSFD. The advice will feed into ongoing efforts to provide guidance on the operational implementation of the MSFD.
Scientific justification	Member countries and Regional Sea Conventions (RSCs) are developing indicators of impacts on benthic habitats from anthropogenic activities, particularly bottom-trawling, for MSFD purposes (D1 biodiversity and D6 seafloor integrity). EU projects are also developing approaches across European seas (including the Mediterranean and Black Sea). As part of this process, ICES has in 2016 provided as advice to the EU "*guidance on how pressure maps of fishing intensity contribute to an assessment of the state of seabed habitats*". The next challenge is for impact score(s) derived on the basis of a mechanistic, quantitative approach (e.g. developed in BENTHIS) to be evaluated in terms of robustness as an indicator in assessing the state of the seabed for MSFD purposes (WKBENTH). In addition to indicators describing pressure from bottom-fishing activity, indicators of the ecological impact of bottom fishing are required and could include a measure of the 'reduction in the surface area where the community, or a specific functional group, is in its undisturbed reference state'. By setting threshold impact values per habitat type/ subdivision, the approach should enable quantification of a real extent of impacted and not impacted seafloor. Furthermore, the benthic pressure and impact assessment indicators (or derived parameter) should enable exploration of the trade-offs between the proportion of impact on seafloor habitats and provisions of catch/value (WKTRADE). From an EBFM (ecosystem-based fisheries management) perspective, there is a need to inform managers about the interlinkages, and therefore possible trade-offs, between benthic impacts and the landings or revenue of the fisheries. To do this, an analysis of fishing intensity and the catch achieved (by weight or value) should be compared to the degree of habitat impact (taking account of the resilience of the habitat and whether there is any recovery of it between

	bottom-fishing events). Undertaking the analysis per unit area (c-square) and per fishery should aim to show which areas are most productive for each fishery and which areas are least productive but have high costs in terms of environmental impact. The outcomes should offer a possible way to inform managers of such trade-off scenarios. Developed indicator procedures and tools to evaluate trade-off in a management context should support continued development of work within the Regional Sea Conventions. To ensure this dialogue a stakeholder workshop (WKSTAKE) will be organized,which WKBENTH and WKTRADE will contribute to.
Resource requirements	ICES secretariat and advice process.
Participants	Workshop with researchers and RSCs investigators If requests to attend exceed the meeting space available ICES reserves the right to refuse participants. Choices will be based on the experts' relevant qualifications for the Workshop. Participants join the workshop at national expense.
Secretariat facilities	Data Centre, Secretariat support and meeting room
Financial	Covered by DGENV special request.
Linkages to advisory committees	Direct link to ACOM.
Linkages to other committees or groups	Links to CSIMSFD-EA and SCICOM.
Linkages to other organizations	Links to RSCs and EC.

WKSTAKE- Workshop on scoping stakeholders on production of operational guidance on assessment of benthic pressure and impact from bottom fishing.

2017/2/ACOM42 The **Workshop on scoping stakeholders on production of operational guidance on regional management and assessment of benthic pressure and impact from bottom fishing.** (WKSTAKE), chaired by Mark Dickey-Collas*, ICES Secretariat, will meet in Copenhagen, Denmark, 23 March 2017 to:

a) Building on the draft report of WKBENTH and 2016 ICES Advice to the EU "guidance on how pressure maps of fishing intensity contribute to an assessment of the state of seabed habitats", the workshop should explore:
   i. the context for interpreting indicators on the broader scale of the (sub)region / across a 6-year period, and the utility of indicators to explore trade-offs between benthic impact and fisheries catch
   ii. the operational challenges to use the evaluated indicators in assessments,
   iii. the assessment requirements at a regional (e.g. RSC) and cross-regional (e.g. EEA) scale,
   iv. the perceived robustness of any proposed indicator procedure,
   v. if any additional information is available that can be operationally used in the assessments of benthic impacts.

b) WKSTAKE should explore what is required to support continued development within the Regional Sea Conventions of indicators for benthic impact.

WKSTAKE will report by 4 April March 2017 for the attention of the ACOM Committee.

Supporting information

Priority	High, in response to a special request from DGENV on the Common Implementation (CIS) of the MSFD. The advice will feed into ongoing efforts to provide guidance on the operational implementation of the MSFD.
Scientific justification	Member countries and Regional Sea Conventions (RSCs) are developing indicators of impacts on benthic habitats from anthropogenic activities, particularly bottom-trawling, for MSFD purposes (D1 biodiversity and D6 seafloor integrity). EU projects are also developing approaches across European seas (including the Mediterranean and Black Sea). As part of this process, ICES has in 2016 provided as advice to the EU "*guidance on how pressure maps of fishing intensity contribute to an assessment of the state of seabed habitats*". The next challenge is for impact score(s) derived on the basis of a mechanistic, quantitative approach (e.g. developed in BENTHIS) to be evaluated in terms of robustness as an indicator in assessing the state of the seabed for MSFD purposes. Furthermore, the benthic pressure and impact assessment indicators (or derived parameter) should enable exploration of the trade-offs between the proportion of impact on seafloor habitats and provisions of catch/value. From an EBFM (ecosystem-based fisheries management) perspective, there is a need to inform managers about the interlinkages, and therefore possible trade-offs, between benthic impacts and the landings or revenue of the fisheries. To do this, an analysis of fishing intensity and the catch achieved (by weight or value) should be compared to the degree of habitat impact (taking account of the resilience of the habitat and whether there is any recovery of it between bottom-fishing events). Undertaking the analysis per unit area (c-square) and per fishery should aim to show which areas are most productive for each fishery and which areas are least productive but have high costs in terms of environmental impact. The outcomes should offer a possible way to inform managers of such trade-off scenarios.
Resource requirements	ICES secretariat and advice process.
Participants	Workshop with researchers and RSCs investigators If requests to attend exceed the meeting space available ICES reserves the right to refuse participants. Choices will be based on the experts' relevant qualifications for the Workshop. Participants join the workshop at national expense.
Secretariat facilities	Data Centre, Secretariat support and meeting room
Financial	Covered by DGENV special request.
Linkages to advisory committees	Direct link to ACOM.

Linkages to other committees or groups	Links to CSIMSFD-EA and SCICOM.
Linkages to other organizations	Links to RSCs and EC.

WKTRADE- Workshop to evaluate trade-offs between the impact on seafloor habitats and provisions of catch/value.

2017/2/ACOM43 The **Workshop to evaluate trade-offs between the proportion of impact on seafloor habitats and provisions of catch/value** (WKTRADE), chaired by Josefine Egekvist*, Denmark and Adriaan Rijnsdorp*, The Netherlands, will meet in Copenhagen, Denmark, 28–31 March 2017 to:

a) Propose approaches on how to inform managers about trade-offs between benthic impacts and the landings or revenue of the fisheries (per gear or grouping), which should take into consideration:
   i) spatial and temporal aspects of the trade-offs;
   ii) MSFD broad habitat types (i.e. not sensitive/vulnerable habitats); and
   iii) an approach that allows managers and stakeholders to explore the trade-offs between the provisions of catch/value with the proportion of impact on seafloor habitats.
b) The above (TOR a) should be demonstrated through a worked example (e.g. Baltic Sea, N. Sea and/or Celtic Sea) at the scale of MSFD (sub)region. Outputs should include maps and indicator(s) assessing the benefits of the fishery (by weight and/or value) compared with its degree of impact on the seabed (taking account of the frequency of trawling and the ability of the habitat to recover after fishing), at the c-square scale (or other appropriate spatial resolution).

In preparation for the workshop, the Chairs, Josefine Egekvist, Denmark and Adriaan Rijnsdorp, The Netherlands, will facilitate coordination and consolidation of work on TOR a-b, as well as help ensure the workshop's objectives TOR are met and that the workshop report is finalized.

WKTRADE will report by 24 March 2017 for the attention of the ACOM Committee.

Supporting information

Priority	High, in response to a special request from DGENV on the Common Implementation (CIS) of the MSFD. The advice will feed into ongoing efforts to provide guidance on the operational implementation of the MSFD.
Scientific justification	Member countries and Regional Sea Conventions (RSCs) are developing indicators of impacts on benthic habitats from anthropogenic activities, particularly bottom-trawling, for MSFD purposes (D1 biodiversity and D6 seafloor integrity). EU projects are also developing approaches across European seas (including the Mediterranean and Black Sea). As part of this process, ICES has in 2016 provided as advice to the EU "*guidance on how pressure maps of fishing intensity contribute to an assessment of the state of seabed habitats*". The next challenge is for impact score(s) derived on the basis of a mechanistic, quantitative approach (e.g. developed in BENTHIS) to be evaluated in terms of robustness as an

	indicator in assessing the state of the seabed for MSFD purposes. Furthermore, the benthic pressure and impact assessment indicators (or derived parameter) should enable exploration of the trade-offs between the proportion of impact on seafloor habitats and provisions of catch/value. From an EBFM (ecosystem-based fisheries management) perspective, there is a need to inform managers about the interlinkages, and therefore possible trade-offs, between benthic impacts and the landings or revenue of the fisheries. To do this, an analysis of fishing intensity and the catch achieved (by weight or value) should be compared to the degree of habitat impact (taking account of the resilience of the habitat and whether there is any recovery of it between bottom-fishing events). Undertaking the analysis per unit area (c-square) and per fishery should aim to show which areas are most productive for each fishery and which areas are least productive but have high costs in terms of environmental impact. The outcomes should offer a possible way to inform managers of such trade-off scenarios.
Resource requirements	ICES secretariat and advice process.
Participants	Workshop with researchers and RSCs investigators If requests to attend exceed the meeting space available ICES reserves the right to refuse participants. Choices will be based on the experts' relevant qualifications for the Workshop. Participants join the workshop at national expense.
Secretariat facilities	Data Centre, Secretariat support and meeting room
Financial	Covered by DGENV special request.
Linkages to advisory committees	Direct link to ACOM.
Linkages to other committees or groups	Links to CSIMSFD-EA and SCICOM.
Linkages to other organizations	Links to RSCs and EC.

WKLIFE VII - 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

2016/2/ACOM44 The **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** (WKLIFE VII), chaired by Carl O'Brien (UK) and Manuela Azevedo (Portugal) will meet in Lisbon, Portugal, 2–6 October 2017, to further develop methods for stock assessment and catch advice for stocks in categories 3–6, focusing on the provision of sound advice rules. The workshop should address the following Terms of Reference:

ToR a) Evaluate the performance of the MSY advice rules for Category 3 stocks proposed by WKMSYCat34 for the cases where:

i) MSY proxy reference points are available from a stock production model, e.g. SPiCT, and the advice rule is based on a short-term forecast (Section 3.1 of WKMSYCat34 report)

ii) MSY proxy reference points are available, but not from a stock production model, and the advice rule is of the form $\boldsymbol{C_{y+1} = C_{current}\, r\, f\, b}$ (Sections 3.2.1 and 3.2.3 of WKMSYCat34 report)

ToR b) Evaluate the performance of the MSY advice rule for Category 4 stocks proposed in the WKMSYCat34 report (Sections 3.2.1 and 3.2.3); namely, $\boldsymbol{C_{y+1} = C_{current}\ f\ b}$.

ToR c) For case-specific stocks in Category 3, evaluate the performance of the two MSY advice rules proposed in the WKMSYCat34 report (Sections 3.2.1, 3.2.2 and 3.2.3); namely

$$\boldsymbol{C_{y+1} = C_{current}\ r\ f\ b} \quad \text{and} \quad \boldsymbol{C_{y+1} = I_{current}\ F_{proxy,MSY}\ min\left\{1,\ \frac{I_{current}}{I_{trigger}}\right\}}.$$

ToR d) Propose advice rules that lead to appropriate performance for catch advice according to an MSY approach, taking into account the findings from the evaluations in ToRs a), b) and c) and the outcomes in the WKMSYCat34 report.

ToR e) Review available information on the basis for an advice rule for category 3 to 6 stocks of short-lived species and consider the need for specific advice rules for these stocks.

WKLIFE VII will report to ACOM no later than 20 October 2017.

Supporting Information

Priority:	Extremely high. ICES provides advice on more than 260 stocks on an annual basis and more than 60% of these stocks are in categories 3-6. Further developments of the approaches used in providing advice on fishing opportunities for these stocks are needed. WKLIFE is the premier venue for method development and discussion of stock assessments and advice approach for stocks in categories 3-6.
Scientific justification and relation to action plan:	There is an increasing number of fish stocks in Categories 3 and 4 for which assessment of status relative to MSY proxy reference points is available but for which short-term forecasts and MSY-based advice are not available. At this year's meeting of WKLIFE, ICES wishes to address this issue. WKMSYCat34 identified a suite of potential MSY-consistent advice rules for category 3 and 4 stocks. The rules need to be tested by Management Strategy Evaluation (MSE) in order to check that they perform adequately in terms of meeting MSY objectives (i.e. maximising long-term yield) in a manner that is consistent with precautionary principles (i.e. having a low probability of falling outside biologically sustainable limits). ToRs a)-c) address these rules and their evaluation using MSE. Assuming a successful outcome for these evaluations, ToR d) will propose advice rules for the setting of catches in 2019 based upon scientific advice in 2018. For case-specific MSEs, i.e. focused on particular stocks, it is suggested that WKLIFE VII focuses on stocks in western waters, for which MSY proxy reference points already exist (as per advice provided by ICES in 2016). For generic MSE testing, which consider overall general features instead of details of particular stocks, WKLIFE VII should further investigate the dataset with life-history parameters for 41 stocks considered by WKLIFE VI. ToR e) addresses the need for specific advice rules for stocks of short-lived species. The current advice rule for category 3-6 is targeted at stocks of medium- and long-lived species and has proven difficult to apply for stocks of short-lived species. With this ToR WKLIFE VII is requested to review available information on advice rules for these stocks and, if needed, to propose a specific advice rule for stocks of short-lived species.
Resource requirements:	-
Participants:	Stock assessment experts and modellers, with a special focus on MSE
Secretariat facilities:	SharePoint site and report formatting
Financial:	None

Linkages to advisory committee:	ACOM
Linkages to other committees or groups:	All assessment fish stock assessment working groups, WGMG
Linkages to other organizations:	ICCAT, GFCM

Resolutions added after ACOM meeting November 2016

WKECOFRAME - Workshop to scope the ICES framework for ecosystem advice

2016/2/ACOM45 The **Workshop to scope the ICES framework for ecosystem advice** (WKECOFRAME), chaired by Lisette Enserink (The Netherlands) and Carl O'Brien (UK) will meet in Copenhagen, Denmark, 9–11 May 2017 to:

a) Prepare an overview of international policy objectives and regional competencies with respect to the marine environment; identifying the role of ICES in the provision of advice.

b) With the ambition of defining a framework for ecosystem advice, the workshop is tasked to:
   i) Assess the scope of past and current ICES advice; identifying the potential for future requests and any gaps in existing knowledge
   ii) Identify the principles to adopt when applying ICES knowledge to such requests even where there are no clear policy objectives
   iii) Recognising the consultative process expected by some clients (e.g. DG ENV) suggest options for distinguishing between ICES advice and its technical services.

c) Identify options to ensure ownership of the ecosystem advisory process by ACOM and the wider ICES network.

WKECOFRAME will report by 14 June 2017 for the attention of the ACOM Committee.

Supporting information

Priority	ACOM priority
Scientific justification	Ambition: • To support ICES in its (envisaged) role as the main advisory body on sustainable use of marine ecosystems (in particular in MSFD context for D3, D4, D6, D11 and D1) in collaboration with JRC, EEA, RSCs, NOA, DFO, NAFO, NEAFC, etc. • Consistent, reliable and transparent advice backed up by science Scope: • Covering all environmental/ecosystem advice • Taking into account all major environmental policies and obligations (CBD, MSFD, RSCs, national policies such as Norwegian management plans, USA and Canadian legislation etc) • Level of detail: conceptual document to agree principal or a hands on advice template? Need for flexibility, yet firm enough to improve consistency

Resource requirements	ICES secretariat
Participants	ACOM sub-group (Lisette Enserink, Carl O'Brien, Mark Dickey-Collas, Sebastian Valanko, ACOM leadership, SCICOM Chair, DC, XX), and invitees
Secretariat facilities	Secretariat support and meeting room
Financial	None
Linkages to advisory committees	Direct link to ACOM.
Linkages to other committees or groups	Links to CSIMSFD-EA and SCICOM.
Linkages to other organizations	Links to RSCs and EC.

WKMSYREF5 - Workshop to review the ICES advisory framework for short lived species, including detailed exploration of the use of escapement strategies and forecast methods

2016/2/ACOM46 A **Workshop to review the ICES advisory framework for short lived species, including detailed exploration of the use of escapement strategies and forecast methods** [WKMSYREF5] will be established (Co-Chairs: Knut Korsbrekke, Norway, Jose De Oliveira, UK) and will meet 11–15 September in Capo Granitola, Sicily. to:

a) Review the population dynamic characteristics of short lived species and consider whether ICES MSY approach regarding stock size aimed at achieving a high probability (>95%) of having a minimum biomass (B_{lim}) required to produce MSY left to spawn the following year, is appropriate for short lived species and propose a different framework if necessary.

b) Compile a list of available forecasting methods for short-lived species, including information on the stock specific characteristic of relevance for the choice of methods, e.g. timing of recruitment, fishery, assessment and advice.

c) Review the statistical merits of the forecasting methods compiled under b), as well as the suitability of the methods as basis for advice on fishing opportunities for short-lived species.

d) Evaluate appropriate methods to estimate MSY and PA reference points for short-lived species when no apparent stock-recruitment relationship is found.

e) Compare the long term performance of escapement strategies and F based strategies in terms delivering MSY, inter-annual variability in yield and risk of SSB falling below Blim. The application of escapement strategies should include both deterministic and stochastic approaches to the short term forecasts. The framework of these comparisons should be made within the ICES MSE framework. Some work may have already been completed in this area using this approach and so the workshop should include a review of existing simulation work.

f) Draft guidelines for benchmark and assessment working groups providing background for decisions on short-term forecasting methodologies given the biology, data, and assessment approaches for short-lived species. These guidelines should acknowledge the statistical merits of each approach.

g) Consider how to handle the assessment of criterion 1 (level of fishing pressure) of the MSFD Descriptor 3 for stocks with an escapement strategy where, by definition, no FMSY is defined.

This workshop should mainly consider stocks with an analytical assessment and forecast (category 1 & 2 stock), e.g. North Sea sandeel stocks (SA 1, 2, 3 and 4), North Sea sprat, North Sea Norway pout, Barents Sea capelin, Capelin in the Iceland-Greenland-Jan Mayen area, and Bay of Biscay anchovy.

WKMSYREF5 will report by 27 September 2017 for the attention of ACOM.

WKMAREEL - Workshop on the impact of marine catches on the recovery of eel

2016/2/ACOM47 The **Workshop on the impact of marine catches on the recovery of eel** (WKMAREEL), chaired by Alan Walker, UK, will meet by correspondence in March/April 2017, to prepare advice in response to a request received from the European Commission. On the basis of information provided in the request the group will:

a) assess whether the 50% reduction either in catches or in effort compared to the 2004–2006 average prescribed in the Eel Regulation is sufficient to achieve the objectives of the 2013 CFP.

b) assess the current biomass of escapees by main maritime area (if possible by sea basin, i.e. EU sea basins that have eels: Baltic, North Sea, Atlantic, Mediterranean), more specifically from the boundaries of the EMU to marine waters, in absolute terms and in terms relative to the hypothetical escapement under no human influence.

c) assess the extent to which catches of silver eel in marine waters reduce the spawning potential in a manner jeopardising the recovery of the stock.

d) assess the impact and effectiveness of the following measures against the objective to increase the glass and yellow eel recruitment (as in consider the potential impact on the SSB of eel) by 2020, provided that these measures remain in place until then:

   (i) Reducing all eel fisheries to 50% of the 2004–2006 average in the Union waters seaward from the baselines ('baselines' here refer to the delimitation of Eel management plans – "seaward of the boundary of Eel Management plans" – article 8 par. 2 of the Eel regulation) as prescribed in the Eel regulation;

   (ii) Reducing all eel fisheries to 25% of the 2004–2006 average in the Union waters seaward from the baselines;

   (iii) Reducing all eel fisheries to 0% of the 2004–2006 average in the Union waters seaward from the baselines.

e) further comment on the modalities of the application of the above measures in order to reach the highest effectiveness, e.g. the stages of eels to be subject to the measures mentioned above, the duration of the measures, the seasonal aspect, the geographical area, the gears, the urgency of the need to take the measures etc., taking into account the resulting application of the landing obligation.

f) provide comments on other equally effective measures that could be used as alternatives to achieve respective reductions of fisheries in marine waters as in point 4.

g) comment on the impact of glass eel fisheries on recruitment and subsequent adult stock biomass.

Supporting Information

Priority:	Important.
Scientific justification:	Research and data are needed to quantify the potential impacts of marine mortality on the sustainability of the eel stock.
Resource requirements:	No specific resource requirements beyond the need for members to prepare for and participate in the meeting.
Participants:	Relevant eel expert participants have been indentified.
Secretariat facilities:	WebEx
Financial:	ICES Secretariat costs, potential costs for external reviewers.
Linkages to advisory committees:	ACOM
Linkages to other committees or groups:	WGEEL
Linkages to other organizations:	

IBPTurbot4a - Inter-Benchmark Protocol for turbot in the North Sea

2016/2/ACOM48 **Inter-Benchmark Protocol for turbot in the North Sea (IBPTurbot4a)** that will serve as in Inter-Benchmark Protocol, chaired by Alexander Kempf, Germany and reviewed by Invited Expert xxx, will meet by correspondence (June – September 2017) to:

a) Evaluate the suitability of input data for the assessment:

(i) The catch-at-age matrix currently used

(ii) The fishery-independent tuning indices currently used

(iii) The incorporation of fishery-dependent tuning indices that may improve the assessment

b) Evaluate the assessment model settings:

(i) Find model settings that reduce the large retrospective biases in F (and to a lesser extent in SSB)

(ii) Determine whether the model in 2(a) can be used to provide category 1 advice (with forecast) for North Sea turbot, or whether it should continue to be used to provide category 3 advice.

(iii) If the model in 2(a) is not adequate for either category 1 or category 3 advice, propose an alternative (e.g. index of abundance) that can be used for category 3 advice.

c) Estimate reference points for the stock

(i) If a category 1 assessment is found acceptable, estimate the reference points.

(ii) If a category 3 assessment is found acceptable, estimate proxy reference points. (Here, I note that SPicT was run in WGNSSK, so would only need to be re-run if any of the data were updated)

Stock	**Stock Leader**
Turbot (*Scophthalmus maximus*) in Subarea IV (North Sea)	Ruben Verkempynck and Jan Jaap Poos

IBPTurbot will report by 29 September 2017 for the attention of ACOM